



A Weekly Journal of Pharmacy and the Drug-trade.

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CONTENTS: Vol. LX. No. 11 (Series No. 1,155.)

PAGE	PAGE
Australasian News	420
Bankruptcies and Failures	423
Business Changes.....	437
Coming Events	443
Correspondence	440
Deaths	437
Editorial Comments :—	
The Threatening Danger	428
The Doctor Druggist ..	429
Notes	430
English News.....	416
Festivities	436
Gazette	423
Irish News	418
Legal Reports	424
Marriages	437
New Companies and Company News	425
Observations and Reflections.....	327
Personalities	439
Pharmaceutical Society of Great Britain:—	
Evening-meeting	421
Poisons Committee	426
Royal Exchange Colonial Exhibition	437
Scotch News	418
South African News.....	419
Things that Happen—	
Sometimes	426
Trade-marks Applied for..	439
Trade Notes	438
Trade Report.....	444
Westminster Wisdom	438
Winter Session	431

LINES FOR ADVERTISERS.

The Colonial Issue of "The Chemist and Druggist" Falls this year on Saturday, April 19.

It will go to the best buyers of druggists' goods in the Britains beyond the sea.

Besides, it will be specially circulated in Japan: Japanese trade is worth looking after.

The Anglo-Japanese alliance will influence trade.

The C. & D. is in touch with buyers in Japan.

We have correspondents there who look after our interests. Business men should make the most of the alliance.

So far as chemicals, drugs and sundries are concerned

The C. & D. of April 19 will be the medium for business.

British Firms in Foreign Countries.

The Board of Trade has issued a memorandum containing particulars respecting the position of industrial and commercial establishments owned or managed by British subjects or companies in foreign countries, bringing up to date the information collected and published in 1898-9. Messrs. Eyre & Spottiswoode publish the memorandum at 2*½*d., and to merchants and others having branches abroad, the information will be found useful.

Summary.

THE methods for testing glue are described in a note on p. 431. BRITISH TRADE in February was fairly good. A note about it is on p. 430.

BOOTS (LIMITED) have secured premises in Sauchiehall Street Glasgow (p. 418).

MR. JAMES REID imparts some advice to Glasgow chemists in a letter on p. 440.

THOMPSON's method of titrating alkali carbonates is shown to be inaccurate (p. 432).

FOREIGN QUININE is imported at 10*d.* and exported at 4*d.* How is it done? (p. 430).

MISCIBLE liquid extract of coconuts is generally very weak in alkaloid. See paper on p. 421.

MORE FACTS about the keeping of spt. aether. nit., this time by Mr. G. E. Perry, on p. 431.

THIS week's Pharmaceutical evening meeting in London was good. It is reported on p. 421.

GOOD INFORMATION regarding "Hebenon" comes from a New Zealand correspondent (p. 440).

A FULL BUDGET of Australian news will be found on p. 420. It includes the latest tariff decisions.

ARSENIC exists in fertilisers, but not in the fruits of plants grown by aid of the fertilisers (p. 430).

THE EXHIBITION in the Royal Exchange (London) of colonial produce was opened this week (p. 437).

THE Northway Butt scholar has commenced his record with an interesting paper on extract of gentian (p. 422).

THE SPIRIT-DUTY recently charged on imports of butyl and propyl alcohols has now been withdrawn (p. 440).

ANNUAL MEETINGS of provincial chemists' Associations indicate the approaching end of the Winter Session (p. 434).

"XRAYSER" makes an excursion this week into ancient history, Thomas Dover and his powder being the subject (p. 327).

LIQ. HYDRARG. PERCHLOR. should be kept in the dark or in amber-coloured bottles. Otherwise it decomposes (p. 421).

COMPANY DIRECTORS' REPORTS on p. 425 include those of Barclay & Sons, Spratt's Patent, and Southall Brothers & Barclay.

THE doctor-druggists' representative has had an innings before the Poisons Committee. His evidence is given on p. 426, and comments upon it on p. 429.

HOW many chemists realise that the Poisons Committee threatens to wreck the status of their calling? This question is suggested by the article on p. 428.

PROFESSOR HENRI BECQUEREL delivered the Royal Institution Friday evening lecture last week. It was on radio-active bodies, and was illustrated by experiments (p. 431).

THE DEWSBURY ASSOCIATION members have been indulging in some plain speaking about the way other West Riding Associations have received their Federation proposal (p. 435).

BUSINESS in first hands is quiet this week, cod-liver oil being the principal topic. The oil is dearer, so are camphor and cinchona, otherwise the changes are unimportant (p. 444).

IT is shown by Messrs. J. Barclay and E. W. Mann that Sumatra benzoin is better than the Siam kind for making tr. benzoin. co. They also deal with the analysis of the tincture (p. 432).

A GLYCERIN-PATENT CASE is reported from the High Court in which Messrs. Crossfield lost the day. The Royal Baking-powder Company applied to compel the Comptroller of trademarks to register their label under their own conditions, but the Judge was against them (p. 424).

Books to Buy.

For all about prescriptions: "The Art of Dispensing." 5s. 6*d.*; by post 5*s.* 10*d.*

For compounding specialities: "Pharmaceutical Formulas." 7s. 6*d.*; by post 7*s.* 10*d.*

For apprentices: "Preliminary Examination Guide." 2s. 6*d.*; by post 2*s.* 9*d.*

For treatment of horses, cows, &c.: "Veterinary Counter-practice." 3s. 6*d.*; by post 3*s.* 9*d.*

For testing stock: Proctor's "Pharmaceutical Testing." 2s. 6*d.*; by post 2*s.* 9*d.*

From the Offices of the C. & D.

B-C

English News.

Local newspapers containing marked items of news interesting to the trade are always welcomed by the Editor.

Brevities.

Two boys at Newhaven were bound over for stealing 2s. worth of pills from a general dealer's shop in Newhaven.

A Southport woman was fined 5/- at Ormskirk on March 7 for selling shrimps containing boric acid as a preservative.

The Brigg Board of Guardians has decided to repay to the medical officers the cost of any expensive drugs, such as cocaine, necessary for treating the poor.

Among those invited by the Mayor of Plymouth to be present at the reception of the King and Queen last Friday was Mr. C. T. Weary, President of the Plymouth, Devonport, Stonehouse, and District Chemists' Association.

At Kingston-on-Thames Licensing Sessions on March 6 off wine-licences were granted to Mr. H. S. Durbur, pharmaceutical chemist, Victoria Road, Surbiton, and to Mr. W. Longtoft, pharmaceutical chemist, East Molesey.

Edith Mawson has been fined 5/- or one month's hard labour in default for obtaining a situation as a housekeeper to Mr. Ernest Savage, chemist and druggist, of Tooting Bec Road, S.W., by means of a false certificate of character.

Newcastle-on-Tyne citizens want a botanical garden, and the Corporation has been asked to utilise a portion of Leazes Park for the purpose. Amongst those moving in the winter we notice the names of Mr. T. M. Clague and Mr. N. H. Martin.

On March 7 the students of the Imperial College of Chemistry, with Mr. Frederick Davis, their principal, were conducted through the works of the South Metropolitan Gas Company and initiated into the technicalities of gas-making, and shown the methods of gas-analysis.

At Pontypridd County Court on March 10, Mr. Burke, managing director of the firm of Messrs. Burke & Co., chemical-manufacturers, Cardiff, recovered 5/- 5s. damages, with costs, from a haulier named Baker, for injuries and loss sustained by a collision with defendant's horse.

The Inland Revenue officers have been busy in Torquay lately, and in the great drive have made several captures of medicines that should have been stamped. Mr. Young, Secretary of the Torquay Chemists' Association, is calling a meeting of members next week to discuss the question.

The dress of a young lady travelling on a Brixton bus last week was suddenly discovered to be on fire. The flames were promptly extinguished, and it was then found that the cause of the conflagration was the juxtaposition of a box of safety matches to a few chlorate-of-potash lozenges in the lady's pocket.

At the Halifax Police Court on March 7, two brothers, Henry and William Cartman, aged 11 and 9 respectively, were ordered to be birched for breaking into the premises of Mr. Chas. A. Higgins, pharmaceutical chemist, 7 Bull Green, Halifax, and stealing 26s. 1d. Henry Cartman had been occasionally employed as errand-boy by Mr. Higgins.

Mr. S. Daniel, pharmaceutical chemist, is appealing against the Swindon Magistrates' decision in the sweet spirit of nitre case reported in our issue of March 1, on the ground that the analyst did not state on his certificate whether the article, being liable to decomposition, was decomposed or not. A further point is that some of the magistrates were members of the prosecuting body.

In the course of a burglary tour amongst Leeds warehouses last week a gang entered the premises of Messrs. John Bromley & Sons, herb-extract and coffee-essence manufacturers, in Belinda Street, Hunslet. The visitors tried to break open the safe, but failed. Finding no valuables, they mixed coffee, gum, and various other things together, and smeared nearly all the office-books, practically ruining them.

At the Nottingham Guildhall on Wednesday, March 13, a summons taken out by James Lord, chemist, of Parliament Street, against a barman at the Three Crowns Hotel, named

Walter Goodall, for threats and abusive language, was heard. The complainant alleged that his dentist had been in the hotel all the afternoon, and when he sent a messenger the barman came to complainant and abused him, and threatened to throttle him. The defendant was bound over to keep the peace.

At the meeting of the East Suffolk County Council on March 11, the analyst reported that in the past three months he had examined 108 samples, including sal volatile, tincture of iodine, camphorated oil, sweet spirit of nitre, milk of sulphur, &c., of which he found four to be adulterated. In only one case was a prosecution thought necessary, and a conviction was obtained. Several members expressed an opinion that a different class of articles should be obtained for analysis, and this was left to the Standing Joint Committee to arrange.

Chemists are too frequently the victims of juvenile pilferers, who take the opportunity while waiting at a druggist's counter to appropriate anything within reach. Such a case was brought on Tuesday before the Harwich Magistrates by Mr. W. Bevan, chemist. Two girls came into his shop for a pennyworth of cough-mixture, and after they had gone he found a box of cough-lozenges had been taken from the counter. He went into the street and saw the box in the hands of one of the youngsters. When he remonstrated with them, both audaciously denied the theft, threw the lozenges down in the street, and ran off. The Magistrates bound them over under the First Offenders Act.

Supplying Vaccine.

At the Finance Committee meeting of the Swansea Board of Guardians last week accounts were presented from Messrs. J. T. Davis, D. L. Evans, and N. M. Grose, chemists, for lymph supplied for revaccination cases to the medical men. There had been a great demand, owing to the smallpox outbreak, but the Guardians appeared to have cherished the impression that the medical fee of 2s. 6d. for revaccination would include the cost of lymph. The present state of bills disillusioned them, the total charges coming to 90/- 7s. 2d., of which over three-fourths went to Mr. Davis, chemist, Walter Road, who happened to have a large stock of vaccine when the revaccination "boom" set in. The Local Government Board had intimated that they would sanction any "reasonable expenses" in procuring lymph beyond what the Board itself was in a position to supply, and the accounts were passed.

Discussing the Disinfectant.

At a meeting of the Finsbury Borough Council on March 6, Dr. Evan Jones (Chairman of the Public Health Committee) brought up a recommendation with regard to the tender sent in for the supply of disinfectants for the next twelve months. The firms in question included: R. Young & Co., 38 Elliott Street, Glasgow; Adcock, Easton & Co., Finsbury Park, N.; W. Cawood & Sons (Limited), 38 Wilson Street, E.C.; Middleton Brothers, St. George Street, E.; James Boulton & Co. (Limited), Stratford, E.; Lawes Chemical Company (Limited), 59 Mark Lane, E.C.; the Killerm Company (Limited), Cleckheaton, Yorks; Red Cross Chemical Company, Hull; Sanitas Company (Limited), Bethnal Green, E.; George Armstrong & Co. (Limited), Cubitt Town, E.; A. Andoore & Co., Battersea, S.W.; and Burt, Boulton & Haywood (Limited), 64 Cannon Street, E.C. The recommendation was that Messrs. Burt, Boulton & Haywood (Limited) supply the carbolic acid and powder, and that Messrs. Armstrong & Co. (Limited) supply the sulphur. Mr. Millward asked what the Medical Officer (Dr. George Newman) said regarding the efficacy of carbolic acid in destroying germs. The late Dr. John Glaister (Dr. Newman's predecessor in office) said it was practically of no value. Dr. Jones answered that Dr. Newman had not departed from Dr. Glaister's system of distributing the carbolic acid and powder. Mr. Millward: Dr. Glaister said that carbolic did not stop fever. He said it was only killing one stink with another stink, and luring the people into false security. Mr. Millward next wanted to know the prices set forth in the various tenders, and the Town Clerk answered that all the figures could be had in the office. The prices on the tenders now before the Council were:—Carbolic-acid liquid, 8s. 2d. per gal.; powder, 2s. 8*1*/₂d. per cwt.; sulphur, 6s. 6d. per cwt. These were the lowest tenders. In answer to a further query, Dr. Jones said the

Borough analyst took samples of all deliveries, and if any were found below the standard of percentage stated in the tender the bulk is returned to the contractor. The tenders proposed were accepted, and it was also decided that the Medical Officer of Health be authorised to obtain supplies of formic aldehyde when required.

Contracts.

The High Wycombe Board of Guardians has appointed Messrs. Young & Co., chemists, High Wycombe, to supply disinfectants to the Workhouse for the next half-year.

Messrs. Stonham & Son, chemists and druggists, Maidstone, have been appointed by the Cranbrook Board of Guardians to supply medical appliances to the Workhouse during the next half-year.

The Liverpool Town Council has accepted the tender of Messrs. Evans, Son & Co., of 53 Hanover Street, Liverpool, for the supply during the ensuing year of drugs and druggists' sundries, and that of the United Alkali Company (Limited), for disinfectants.

Notes from the Midlands.

Alderman Mander, of the firm of Mander & Co., chemical-manufacturers, Wolverhampton, has met with a serious accident in the hunting-field.

The assistants in pharmacy have secured a champion in the new rector of Birmingham (the Rev. J. W. Diggle), who takes the chair at an early-closing meeting to be held next Wednesday at the Temperance Hall at 8 o'clock.

At the Aston Police Court on Friday last a haulier, who had worked a horse in an unfit state, gave evidence that he had put blacking on the animal's sores, which caused the hair to grow. The Superintendent asked if it was a recognised competitor to the other advertised hair-restorers.

What is the difficulty one hears so much about just now amongst the medical undergrads. of our newborn university? A candidate for registration asks for advice from the Apothecaries' Hall, and is advised to apply to the Medical Council; and again he seeks advice from the Conjoint Board, and is told that their sanction is sufficient *per se*.

The M.O.H. of King's Norton has resigned office. As this is an instance of the M.O.H. and public analyst kind, there appears an opportunity for the pharmacist who practises analysis. Hitherto Dr. Hollinshead has done this work, but particular cases have been sent to a member of a well-known Birmingham firm of pharmacists (near Moor Street).

Mr. J. E. Southall, whose thrilling experience on the ill-fated ship *Wesland* has been given in all the newspapers, is a son of one of the members of the well-known firm of Messrs. Southall Brothers & Barclay, Bull Street, Birmingham. He appears to have displayed true British pluck. He said, "Everybody assumed a perfectly calm demeanour. The sailors were soon hard at work getting out the boats, and this was done admirably."

Northwich, the centre of the Cheshire salt-industry, has suffered much from subsidence of buildings through the draining of brine from the salt-springs underneath the town. In consequence, the place presents a curious assortment of houses reclining at all angles, and some of the lower storeys have disappeared. It is now stated that the Brunner Free Library and Museum is in danger. The building, which is a substantially erected one, presents cracks and crevices in all parts of the walls.

"Sulphuric Acid—Ancient and Modern" was the title of Professor Frankland's Presidential address to the Varsity Chemical Society, on Monday evening last, before an audience which nearly filled the large chemical lecture-theatre. He traced the history of this "hydrogen ion" from Geber, in the eighth century, who prepared it from alum, to the condition of the industry to-day. The experiments were brilliant and most successful, the lecturer according well-merited praise to the lecture-assistant (Mr. Proctor), whose name is not unknown to the members of the Midland Pharmacists' Association.

Branch Manager and Shop Keys.

Frank Taylor, a chemist's assistant, 30 Bourne Street, Croydon, obtained a situation with Mr. Frederick E. White,

chemist and druggist, 4 Mitre Terrace, Tooting, as manager of a branch shop, the understanding being that he (Taylor) was qualified. Mr. White failed to get evidence of any Minor certificate, and ultimately Mr. Bremridge informed him that Taylor's name was not on the register. Mr. White then demanded the keys of the shop from Taylor, and there was a little tussle, in the course of which Mr. White forcibly took the keys. As a result Taylor summoned Mr. White before the local magistrates last week for assault, and Mr. White had to pay 40s. and 2s. costs. In the course of the evidence Taylor admitted that he is not a qualified chemist, and that he had been in Tooting Home.

Owens College.

On Wednesday, March 12, the Prince of Wales opened Whitworth Hall, the latest addition to Owens College, which is likely in the near future to become the University of Manchester. The *Manchester Guardian* of that day had an excellent illustrated account of the jubilee of the College, which concluded with this sonnet by Mr. H. D. Rawnsley:—

To day, with loyal hearts to King and Throne,
Proud of our Prince and glad for festival,
We bring fair Knowledge to her perfect Hall,
And crown the fifty years of work well done
With grace of builder's glory. Stone on stone
As heart on heart have heard an Orphic call,
Love laid foundation, Love has roofed the wall
Where Use and Beauty now are shrined as one.

Here, while the organ-trumpets sound her name
Who dowered the city with that Palace store
Of books and golden scrolls and palimpsests,
This stately hall shall Whitworth's deed proclaim,
Owens, Faulkner, Beyer, Christie—spirit-guests
Herc shall find welcome, honoured evermore.

The Week's Poisonings.

Seven of the fourteen poisoning fatalities reported as having taken place during the past week, were caused by laudanum. These occurred at Manchester, Handsworth, Bristol, Leeds, Sunderland, Swanage, and Kensington. In the last-named case the inquest was held by Mr. Drew on March 10, the victim being a woman named Maria Mathews. It was stated that under her pillow was found an empty bottle which had contained laudanum, and which bore the label of "J. Widgery, A.P.S., dispensing chemist, 65 Golborne Road, North Kensington." Dr. Easor was giving her medicine containing a small amount of morphia, but deceased used to buy laudanum, a penny-worth at a time, and take a few drops to relieve her cough. She obtained a pennyworth (about 1 drachm) on the day before her death, and the *post-mortem* examination showed that deceased must have taken the whole quantity, and falling forward on to her face on the bed clothes, had been suffocated.—At Swanage on March 5, the Coroner (Dr. H. W. C. Parkinson) held an inquest as to the death of Miss Sarah Elizabeth Kitching, who had killed herself with excessive doses of laudanum. The deceased, whilst on a visit to Swanage, varied her alcoholic excesses with doses of laudanum, and was found dead in her room. Mr. R. Randall, chemist, High Street, Swanage, informed the Coroner that deceased had visited his shop and had asked for 1 oz. of laudanum for injection. She seemed perfectly right, and he asked her how much she was accustomed to use for injection, and she replied, "a tablespoonful." He said half a teaspoonful would have been sufficient, but as she appeared to know all about it he had no scruples in giving her 1 oz. Mr. G. Wilkes, chemist, Institute Road, said deceased asked for 1 oz. of laudanum, which, after inquiry, he supplied. The Coroner said the chemists were quite within their rights. It seemed to him that the Poison Act did not, as a matter of fact, apply at all.—Carboic acid was used in three cases at Wycombe—where Mr. E. T. King, chemist and druggist, of Amersham supplied the poison to a groom for disinfecting purposes—at Cardiff and at Liverpool.—A Hull man poisoned himself with prussic acid, and a nurse at Bath, who had been in the habit of taking chloroform for insomnia, took a fatal overdose. She also, as in the laudanum case mentioned above, was found dead in bed with her head buried in the bedclothes.—A widow at Bargess Hill drank a quantity of hydrochloric acid and died.—At Hagley, on March 11, an inquest was held, before Mr. A. Hebbert, concern-

ing the death of a stable-boy at Pedmore Hall. It was stated that the coachman had sold him 2½d. worth of honey, and he had eaten it. This was denied by the reputed seller and a cowman. Dr. Lowe said a teaspoonful of honey would knock up some people. Cases had happened where the bees had gathered the honey from poisonous plants, and it had caused toxin poisonings. The *post mortem* examination showed that deceased had appendicitis. This had been latent and intensified by diarrhoea, and had caused death. The jury exonerated the coachman and cowman.—Several narrow escapes from poisoning are reported. A Burton fitter drank a quantity of poisonous liniment, but recovered. A Southport gardener took carbolic acid, but promptitude and the stomach-pump saved him. A fisherman's son (19) at Sidmouth, who was charged with stealing jewellery, took a dose of an eye-lotion containing atropine and cocaine, but was pulled round. A Lambeth woman, deserted by her husband, tried sugar of lead, and a woman appeared at Thames Police Court charged with attempting to kill her baby and herself by drinking a carbolic disinfectant. A Ross widow is in custody on a charge of attempting to murder her daughter (17) by putting "phosphorus" in her tea.

Jas. H. Stronge) informed the Judge that the Grand Jury had done so, condemning the manner in which quack medicines were being advertised throughout the county, to the great danger of the inhabitants, and the jury asked his Lordship to call the attention of the proper authorities to the practice.

Harrying the Contractors.

At the last meeting of the Ballymoney (co Antrim) Board of Guardian a letter was read from Messrs. Boilean & Boyd, Dublin, stating that they could not find anything wrong with the drugs supplied to the Castlequater Dispensary, but rather than have any further correspondence on the subject they had replaced them by equal quantities sent direct to Dr. Wallace. They stated that they would not in future send in a tender, and mentioned that they had twenty-five to thirty Union contracts, in scarcely one of which had they received a complaint in regard to the goods. At the same meeting a report was received from Mr. Robert H. Blake, the Board's analyst, stating that he had analysed three samples of drugs from the Dervock Dispensary, all of which were of good quality. This, the Board said, was satisfactory.

Contracts Open.

The following Boards of Guardians invite tenders for the supply of medicines and medical and surgical appliances:—Ballinrobe, workhouse and dispensaries (March 24); Ballymalon, workhouse and several dispensaries (March 20); Ballina, workhouse and two dispensaries (March 24); Balrothery, workhouse and six dispensaries (March 19); Bawnboy, workhouse and four dispensaries (March 24); Castlecomer, workhouse and several dispensaries (March 25); Cavan, workhouse and eight dispensaries (March 18); Clones, workhouse and several dispensaries (March 23); Clogheen, workhouse (March 18); Cookhill, workhouse and several dispensaries (March 21); Croom, workhouse and six dispensaries (March 20); Ennis, workhouse and several dispensaries (March 19); Enniskillen, workhouse and several dispensaries (March 18); Kilmacthomas, workhouse and several dispensaries (March 18); Kelly, workhouse and dispensaries (March 22); Limerick, workhouse and seven dispensaries (March 19); Longford, workhouse and several dispensaries (March 22); Mount Bellew, workhouse and three dispensaries (March 18); Rathdown, workhouse (March 26); Roscrea, workhouse and several dispensaries (March 20); Tulla, workhouse and eight dispensaries (April 1); Youghal, workhouse and several dispensaries (March 20); Wallow, workhouse and dispensaries (March 21).

Irish News.

Local newspapers containing marked items of news interesting to the trade are always welcomed by the Editor.

Pharmaceutical Council-meeting.

The monthly meeting of the Council was convened for Wednesday, March 5, at 67 Lower Mount Street, Dublin; but a sufficient number of members to form a quorum did not attend. The members who attended were the President (Mr. Beggs), the Vice-President (Mr. Bernard), and Messrs. Smith and Brown. A special meeting was summoned for Wednesday, March 12.

Pharmaceutical Examinations.

All applications for the undermentioned examinations of the Pharmaceutical Society of Ireland must be lodged with the Registrar by 11 o'clock A.M. on the following dates:—Tuesday, March 18, for the Preliminary examination; Tuesday, March 25, for the Registered Druggists' examination; Wednesday, March 23, for the Pharmaceutical License examination; Tuesday, April 1, for the Pharmaceutical Assistant examination.

Business Changes.

Messrs. May, Roberts & Co., wholesale druggists' sundriesmen, Clerkenwell Road, London, have opened an Irish branch at Westmoreland Street, Dublin.

Mr. James B. Bolger, L.P.S.I., Maryborough, has purchased from the representatives of the late Dr. Neale the Medical Hall, Drogheda Square, Mountmellick, and will carry on the concern as a branch establishment.

Herbal Medicines.

The case against the Lillians, reported last week (page 366), came on at the County Clare Assizes on March 6, but the jury, after hearing the evidence, were unable to agree as to their verdict. The prisoners were allowed out on bail on entering into personal recognisances for various amounts.

Medicine Contract.

At the meeting of the Cookstown Board of Guardians on March 8, Mr. Nethery, of Durgannon, was declared contractor for medicines at 25 per cent. off the standard price of the Local Government Board. Messrs. John Clarke & Sons, Belfast, were declared contractors for medical and surgical appliances at a reduction of 10 per cent.

Down on Quack Medicines.

In connection with a case of the illegal use of a drug of unknown composition in which the prisoner was discharged, the Co. Armagh Grand Jury passed a resolution on the subject of the sale of quack medicines. The Foreman (Sir

Scotch News.

Local newspapers containing marked items of news interesting to the trade are always welcomed by the Editor.

Boots Invade Scotland.

The windows of the Louvre, a large and at present unoccupied warehouse in Sauchiehall Street, Glasgow, are covered with bills announcing that it will be opened shortly by Boots (Limited).

Business Change.

Mr. J. Anderson Russell, New City Road, Glasgow, has acquired the business of Mr. J. A. Bain, chemist and druggist, Greenock.

Edinburgh Pharmacy Athletic Club.

The eleventh annual general meeting will be held at 33 York Place on March 17, at 9.15 P.M., when the Secretary's and Treasurer's reports will be submitted and the election of office-bearers for the new season will take place.

Edinburgh Chemists' Golf Club.

The annual general meeting of this club was held at 36 York Place on March 4. The treasurer's and secretary's reports were highly satisfactory. A guinea was voted to the Benevolent Fund, and the following office-bearers were elected for the year:—Hon. President, Mr. J. Rutherford Hill; captain, Mr. C. F. Henry; secretary, Mr. Jas. Stott; assistant secretary, Mr. J. G. Robb; treasurer, Mr. W. B.

Cowie; committee, Messrs. H. D. Alexander, W. C. Baker, A. J. Dey, Jas. Finlay, J. C. Laird, Wm. Lyon, and Geo. Robertson.

Aberdeenshire Items.

Mr. Gordon Smaut, chemist and druggist, Aboyne, is enlarging and extending his premises on the fine business corner he occupies opposite the entrance to Aboyne Castle.

Andrew Allan and Mary Angus were each sent to prison for seven days for stealing two cakes of soap from the shop of Mr. A. P. Wallace, chemist and druggist, Victoria Road, Aberdeen.

On March 8 a bullock which was being driven to Belmont Auction-mart, in Aberdeen, dashed into the plate-glass doorway of the shop of Mr. A. W. Shirras, chemist and druggist, Powis Terrace, and smashed the glass. He backed out again, however, without doing further damage.

Glasgow Notes.

During 1901, of 3,048 shops open in the city and suburbs on Sunday, 251 are described as drug-shops.

The ravages of *la grippe* are visible on every hand, and Rubini's solution of camphor and tr. quinine ammon. are in great demand.

The Pacific Slope must be played out. A new nostrum, now being boomed by door-to-door delivery of circulars, claims to have its origin in the "Never Never Land," better known as the great desert of Australia.

Chemists have still much to learn in the art of window-dressing. A study of local shop-windows reveals a disappointing poverty of ideas. Either the goods are thrown in hugger-mugger, or with a bilateral symmetry, which is geometrical rather than aesthetic. There is an opening here for a professional window-dresser, preferably of the "female sect."

The Governors of the Technical College have arranged for a course of four lectures by Dr. J. Shields, F.I.C., F.C.S., on "The Electro-chemical Industries." The titles of the lectures are: (1) "Evolution of the Electro-chemical Industries"; (2) "Electro-thermal Processes"; (3) "Electrolytic Processes as Applied to Metallurgy"; (4) "Electrolytic Processes for the Manufacture of Alkali, Chlorine, and their Products."

Mr. T. S. Barrie, of the West of Scotland College of Pharmacy, scored at Kilmarnock last week in a milk case. Dr. Aikman, the county analyst, gave 2·75 per cent. of fat as the amount in the milk, and the seller was prosecuted. Mr. Barrie found 3·13 per cent. of fat in the milk, and the Government chemists have since certified to 3·12 per cent. The milk-seller got off, but the Sheriff would not give him expenses.

The Consumption Sanatorium at Bridge of Weir, near Glasgow, is the only institution of the kind open free to phthisical female patients. According to the last quarterly medical report, of the patients discharged during the quarter 5 were cured, 15 relatively cured, 19 very much improved, 4 condition unchanged, and 1 died a few days after admission. Of the patients only 9 were in the early stage of the disease on admission.

The herbalist, who has never been so popular in Scotland as he seems to be even yet in England, will soon be extinct here. Twenty years ago there were double the number of herbalists' shops in Glasgow than there are now. Some of the herbalists of those days were passable field-botanists, and one universal genius, long since dead, united in himself the triple offices of herbalist, druggist, and dentist, his prowess in the latter respect being advertised by a windowful of extracted teeth in all stages of caries and decomposition.

A Students' Dinner.

On March 10 about sixty past and present students of the West of Scotland College of Pharmacy dined at the Alexandra Hotel, Glasgow. The chair was occupied by Mr. Thos. S. Barrie, the Principal, who was supported by Mr. Peter Boa (Chairman of the N.B. Executive), Mr. J. P. Gilmour, Mr. John Walker, and others. The evening was enlivened by songs contributed by Mr. D. Dow and Mr. Flockhart, while Mr. Gilmour gave a recitation. In proposing the toast of

the "Pharmaceutical Society," Mr. Walker referred to the subject of the sale of poisons in quantity. Mr. Boa, in his opinion, was of opinion that the sale should be confined to chemists and druggists entirely. Mr. Barrie, in reply to the toast of the College, said the Educational Institute of Scotland was considering the advisability of re-arranging their fees for Preliminary examination in view of the fact that pharmaceutical students were taking all the subjects in two sittings instead of in one sitting, as other students do. Mr. Barrie afterwards distributed prizes for excellence in home work to the successful Preliminary students.

South African News.

ISOLATED CASES OF PLAGUE continue to make their appearance in different parts of the western provinces. Fears are entertained that a further outbreak will occur when the rainy season sets in.

MR. F. W. C. THOMAS, of Claremont, having sold his business to Messrs. Heynes, Mathew & Co. (as stated last week), is at present at the seaside enjoying a well-earned holiday.

THE CHEMISTS OF PIETERMARITZBURG, NATAL, have formed a tennis club with a membership of fifty. The following are the officers:—President, Mr. R. Faller; Vice-President, Mr. R. Allanson; Hon. Sec. and Treasurer, Mr. P. Levy; Assistant Sec., Mr. J. K. Murray; Committee, Messrs. H. Allanson, J. Murray, G. Heald, W. Cook, J. R. Titley, A. Murray, and P. Levy. Ping-pong will also be included in the sport.

CONTRACTS.—It is notified in the *Natal Government Gazette* that the tenders of the undermentioned firms have been accepted for supplies, &c., during the present year:—Central Gaol, Maritzburg, Messrs. Turner & Co., medicines, drugs, and surgical materials; Central Gaol, Durban, Lennon Limited, ditto; Central Gaol, Eshowe, O. Bertelsen, medicines and drugs; and Central Gaol, Maritzburg, Messrs. Merrick & Co., beeswax, sheep-dip, soap, washing soda, &c.

BY PARCELS POST.—It having been found that parcels mailed to the Cape from England are often notoriously undervalued, the authorities at Cape Town warn the public that parcels found on examination to be undervalued are liable to seizure, in addition to other penalties which may be imposed under the Customs Laws and Regulations. Those forwarding private parcels should exercise care in declaring the value, while the declarations on business-packets must agree with the invoice for the goods it contains.

A UNIFORM TONNAGE.—The Table Bay Harbour Board wants a uniform tonnage at all Cape ports, and to that end held a conference. The result was that while East London was quite willing, Port Elizabeth declared itself averse to discussing the matter until the country became more settled. In reply to a question, the Assistant Colonial Treasurer said they could not compel Port Elizabeth to attend a conference. This refers, of course, to the shipping tonnage, as 2,000 lbs. is the standard ton weight in South Africa.

ARSENIC OR THE ACT OF THE GOD?—In Sambalpur, a villager while worshipping at a shrine found a ball of sweetmeats before the idol. He carried it off and shared it with his grandson. The villager died soon after, and the grandson was in a critical condition. The villagers attribute this to the wrath of the god; but the police are treating it as a case of murder.

RABIES.—There has been a rather serious outbreak of rabies in Simla. The disease was probably introduced by a mad jackal, as dogs have been found infected and destroyed in several parts of the station. A native child who was badly bitten, and a European child slightly bitten, were both sent off to the Pasteur Institute at Kasauli, and the dog was sent to Colonel Lukis, I.M.S., to extract the brain for analysis and inspection. While engaged in the operation some of the brain-matter flew up into Colonel Lukis's face, and it is feared he may thereby have become infected. He also has gone off to Kasauli.

Australasian News.

Chiefly from "The Chemist and Druggist of Australasia,"
February 1, 1902. 6d. per copy, post free.

MR JOHN GRANT WILSON, Calcutta, who passed the Minor in 1837, has been registered in Victoria.

THE members of the Pharmaceutical Society of Western Australia have forwarded through the Registrar the sum of 27 Zs. to the W. A. H. Naylor Testimonial Fund.

MR F. W. SIMMONDS was elected President of the Pharmacy Board of Queensland at the January meeting, and is the first chemist of Queensland training to attain that position. Mr. Simmonds is in business in Toowong, a suburb three miles out of Brisbane, and was elected a member of the Board in 1898.

THE QUEENSLAND PHARMACY BILL was included in the "Slaughter of the Innocents" at the end of the session. It is thought, however, that the discussion has cleared away some of the obstacles, and when the Bill comes again before the Council it is scarcely likely that the medical members of that assembly will again attempt to take up a position in regard to the Bill which has prejudiced them in the eyes of many.

N.S.W. STATISTICS.—From the annual report of the Pharmacy Board of New South Wales presented at the January meeting it appears that there were 795 names on the register on December 31, 1901, an increase of 16 over the previous year. The Board also granted 180 annual poison licences to storekeepers. It is interesting to note that Parliament granted a subsidy of 400/- for the current year's expenses of the Board.

UNOFFICIAL FORMULARY.—The Council of the Pharmaceutical Society of New South Wales have ratified the proposal to bring out an unofficial formulary in connection with the Victorian Council. Mr. Loney, who had been in England, did not think it advisable to needlessly multiply formularies; there were already the National Formulary (U.S.) and "B.P.C." Formulary. The Council, however, had gone too far with the matter to turn back.

MR. F. K. FAIRTHORNE has been re-elected Mayor of Launceston, Tasmania. Mr. Fairthorne is the proprietor of the pharmacy of L. Fairthorne & Son, which has many branches in Northern Tasmania. It is interesting to note that Mr. Fairthorne's father—Mr. Landon Fairthorne, founder of the business—also filled the office of Mayor of Launceston in 1884. It is believed to be an unique occurrence in Australia that father and son, both chemists, have both occupied the honourable position of Mayor of the same city.

THE LATE MR. BONNINGTON.—The memory of the late Mr. Geo. Bonnington, who died at Christchurch, N.Z., on December 18, 1901, is to be kept green by a portrait in the Board room of the Pharmacy Board of N.Z. Mr. Mee, the President, at the last meeting, in moving that a vote of sympathy be passed to Mrs. Bonnington and family, announced his intention of obtaining a commemorative portrait. Mr. Bonnington was born in Derbyshire in 1838, and went to New Zealand with his parents in 1848. He was connected with the Pharmacy Board from its inception, and had filled the office of President.

REGISTRATION REQUIREMENTS.—The wife of a pharmacist has applied to the Pharmacy Board of New South Wales for registration. The applicant's papers state that she has been the necessary three years as assistant to a registered man, and that statement was practically countersigned by two registered doctors who certified to her efficiency. The application caused some discussion among the members of the Board who wished to ask the lady to come before them to be questioned as to her training and knowledge. The application was made under sub-section D of the Pharmacy Act, and it is a question whether the necessary declaration being put in the Board has any choice but to register.

DIVIDING THE EXAMINATION was instituted by the Pharmaceutical Society of Tasmania in 1899 to afford apprentices the option of taking *materia medica* and *botany* during their first two years. It has, said the President at the annual meeting, been appreciated by students, who show better work in these subjects. It has been the means of raising the standard and percentage of passes. There have been failures, the President frankly confessed. Candidates sometimes present themselves after only a short course of study, thinking by chance to scrape through. Such unpreparedness, however, is easily discernible to an examiner, resulting in a recommendation for another six months' study.

DISINFECTANTS IN QUEENSLAND.—As mentioned in the *C. & D.*, November 16, 1901, page 795, the Commissioner of Public Health of Queensland is desirous of putting into force the provisions of the Health Act as to labelling disinfectants with the proportion of the active principles. The Pharmaceutical Society of Queensland have been in communication with several disinfectant manufacturers. F. C. Calvert & Co. reply that they have always stated the percentage on their preparations, and are glad to hear of the action taken. Condy & Mitchell will lay the Society's communication before their directors. Newton, Chambers & Co. (Limited) sent printed matter, and Morris, Little & Son, through their local agents, desired to know in what way they could comply with the Act.

TARIFF DECISIONS.—The fourth series of decisions issued by the Commonwealth Customs Department bears the following:—

Australian Products.—Cases, bottles, corks, straws, &c., used in packing to be admitted free to all States excepting Western Australia.

Berry's Tricopherous.—Dutiable as spirituous compounds.

Carbonate of Soda.—If soda crystals, 1s. per cwt.

Creosote (crude), in bulk.—Fifteen per cent., as disinfectants n.e.i.

Envelopes (straw) for Bottles.—Free.

Magnesium Ribbon.—Twenty-five per cent.

Oto de Rose (virgin).—Free, as essential oils.

Roentgen-ray Apparatus.—Free, as surgical appliances.

Wool (absorbent).—Free.

A HOMELAND VIEW.—Mr Alexander Brown, Narandera, N.S.W., who lately returned from a visit to England, contributes his experiences to the *C.D.A.* He speaks well of pharmacy in the United Kingdom, but the climate has too much rain, cold, and fog to suit one used to the dry sunny Antipodes. One or two points are worth extracting from Mr. Brown's notes:—

I was often at home charmed with the elegant manner in which many establishments put up their own special lines. The neatness of the wrapping and the wrapper, and the artistic labels all bespoke a care and taste that reflected highly and creditably on the establishment. Thereby sales are made and profits increased. . . . In the Old Country window-dressing is more general than here, and the displays made are more effective and more calculated to "touch the spot" than ours. Of course we must allow that at home they have advantages in many ways whereby they can fit up and make more effective displays than we. Still I am of the opinion that the example set us can here be profitably copied. The counter cases, as a rule, are well covered with a display of specialties. There seem to be more life and push put into business than we, on the average, attempt, and less back-shop life than we are guilty of. In nearly every pharmacy I visited I saw something to admire, the majority of them being splendidly fitted up shops, well-conducted businesses, and evidently prosperous. Speaking of prosperity, in intercourse with many friends in the business, chums of my young days, I was pleased, very pleased indeed, to notice that in every instance they were all in comfortable circumstances. . . . In one or two special cases I marvelled at the success achieved. A former employer of mine during my visit home did me the honour to invite me to his house to a special party. It was an evening with his head hands and the young ladies from the counting-house. There were twenty-five couples present. The employés, numbering I don't know how many, have an annual spread, but it takes place in a large hotel with rooms big enough to accommodate. The private house party was, I have said, only the confidential employés. Now, twenty years ago, when this particular chemist started business, he only employed myself and a boy. Through close application, superior ability, and entirely by his own efforts he does the largest retail business in the country, and has a wholesale business of some considerable extent.

Pharmaceutical Society of Great Britain.

EVENING MEETING.

THE third evening meeting of the Session took place on March 11 at 17 Bloomsbury Square, W.C. Mr. C. B. Allen (Vice-President) occupied the chair, and among those present were Professor Norman Collie and Messrs. Walter Hills, Rutherford Hill, E. Northway Butt, W. A. H. Naylor, Langford Moore, E. T. Brewis, and J. W. Bowen.

The VICE-PRESIDENT opened the proceedings at 8.10 P.M., by announcing that the President, who had hoped to be present, had not arrived, and referred to the fact that the papers to be presented were prepared in the Society's laboratories. He then called on Mr. W. Garsed to read his paper on

LIQUID EXTRACT OF COCA.

Last year the author called attention to the varying percentage of alkaloid in liquid extract of coca, which he found to be from 0·15 to 0·25. Fourteen samples were obtained from various sources—seven B.P. and seven the "miscible" kind, and subjected to assay. The B.P. extracts were all acid to litmus, had a deep brown-green colour, and all had a similar odour except one sample, which was of superior fragrance. All the extracts deposited on standing, but the precipitate was not found to contain alkaloid. The assay-process used for the B.P. liquid extract of coca was as follows:—

100 c.c. of the extract was evaporated to half the bulk in a shallow dish on a water-bath at a temperature never exceeding 80° C., with constant stirring, to get rid of the alcohol (this never took more than fifteen minutes). When cold the concentrated extract was made alkaline by the addition of 5 c.c. of 10 per-cent. ammonia and transferred to a separating funnel. The dish was washed out first with 45 c.c. of distilled water, then with 100 c.c. of ether. The water and ether washings were added to the rest in the separator, the whole well shaken, and allowed to stand until the ether separated, when the alkaline liquid was drawn off. The extraction with ether was three times repeated. Four ether solutions are thus obtained. The first three were mixed together, washed with a few c.c. of water containing a little ammonia, and shaken out first with 5 c.c. of 5-per-cent. sulphuric acid, then twice with 5 c.c. of 1-per-cent. acid. This was generally found sufficient to completely exhaust the ether solution, the test being the addition of a few drops of Mayer's reagent to the last few drops of the third quantity of acid, when, as a rule, no precipitate or opalescence was produced.

The three acid solutions were mixed together, made alkaline by the addition of 10-per-cent. ammonia, and three times shaken out with 10 c.c. of petroleum ether, then once with 10 c.c. of ordinary ether. The three petroleum-ether solutions were mixed together and evaporated to dryness on a water-bath in a tared dish, which was then placed in a desiccator for some hours and afterwards weighed. The weight of alkaloid thus obtained is the weight given in the table. The ether liquid contained little or no alkaloid.

The miscible extracts, said the author, were probably made by percolation with acid water and alcohol added as a preservative. The assay process used was similar to the above, except that no evaporation was necessary, the extract being at once made alkaline with ammonia, and then four times shaken out with an equal volume of ether.

The following table shows the results of the various assays:

	Extract	Miscible extract
1	0·816	0·014
2	0·386	0·154
3	0·368	0·026
4	0·252	0·018
5	0·200	0·294
6	0·400	0·048
7	0·210	0·054
Average	0·330	0·091

The alkaloid was not pure cocaine, but probably contained

small quantities of truxilline and cinnamyl cocaine in addition, but no ecgonine or benzoyl ecgonine.

The VICE PRESIDENT said the difference between the alkaloidal content of the miscible and B.P. extracts was a point which pharmacists should bear in mind.

Mr. WALTER HILLS asked if Mr. Garsed had made an extract in the Society's laboratory with leaves of known alkaloidal strength, so as to see how much alkaloid the B.P. process extracts.

Mr. NAYLOR emphasised the remarks of Mr. Hills, and asked how the liquid extracts had been stored, because it was not surprising that deposits formed if the samples had been subjected to the recent cold weather. It was satisfactory to know, however, that the deposit contained no alkaloid. He was surprised to see the difference between the alkaloidal content of the B.P. and miscible extracts, but he would not be disposed to visit the loss too severely on the manufacturers until the quantity of alkaloid in the leaves used was determined, and the loss in making such an extract known. The increased knowledge of cocaine had shown that there was a probability that the cocaine may have suffered decomposition. It was not, he added, customary to use water as a menstruum for miscible extract of coca, and add alcohol afterwards to keep it.

Mr. UPSHER SMITH said it would be useful if some one would inform them as to how miscible extracts are made.

Mr. MACEWAN said that should not be difficult to find out from wholesale houses. Was it possible, he asked, that the other soluble alkaloids became insoluble on keeping? A large proportion of the leaves in the market contain ether-insoluble alkaloids. It ought to be noted, however, that at least one miscible extract was as potent in alkaloid as the B.P. extract.

Professor GREENISH said Mr. Hills' question was a most important one. The B.P. methods of making alkaloidal galenicals do not always extract the whole of the alkaloids and that may be the case with extract of coca. A great many of the processes of the B.P. are in need of emendation; in many the most elementary principles of pharmacy are sinned against.

Mr. GAMBLE said miscible extract of coca, on account of its well known variability of strength, had long been a source of considerable difficulty to pharmacists. The author might devise a process free from objections. The wax in the B.P. extract was, he took it, the source of the trouble, as was the fat in the present tincture of nux vomica.

Mr. GARSED, in reply, said he had not made any experiments to show how much alkaloid the B.P. process extracted from the leaves. The deficiency in strength of some of the samples may be due to incomplete extraction. Coca-leaves contain percentages of alkaloid which varied up to 1 per cent. There was not, he thought, any possibility of the cocaine changing into benzoyl ecgonine, as the alkaloid was present as a salt and not in the free state, and the salts were very permanent in acid solution. The samples were kept in the dark in the laboratory cupboard, where the temperature varied from 50° to 60° F.

The VICE PRESIDENT then called on Mr. UPSHER SMITH to read a paper by himself and Professor Greenish on

SOLUTION OF MERCURIC CHLORIDE.

The authors first gave an historical *résumé* of the official solutions of mercuric chloride from the time of the first inclusion of that solution in the P.L. 1809, and referred to the work of the late William Martindale, who showed that ammonium chloride was objectionable in the solution. The questions considered by the authors were

(1) Does the solution of mercuric chloride of the B.P. undergo any change when kept? (2) To what extent is such change, if any, influenced (a) by the nature of the bottle in which the solution is kept; (b) by the nature of the light to which it is exposed; (c) by the nature of the solvent? (3) What is the nature of the change, if any?

The experiments to test the action of light on the solution were next detailed, varying conditions of light and various coloured bottles—blue, white, actinic green, and amber—being used. Deposits formed when the solution, made with distilled water, was exposed to direct sunlight, which was found to be mercurous chloride. With tap-water a deposit consisting of dark ruby or garnet red crystals was obtained, containing mercury in the mercuric condition but no mercuric carbonate. Millon attributes the composition of

4HgO HgCl_2 to this deposit. The effect of organic matter on the solution was incidentally tried. Infusion of hay was not found to have any effect on the composition, a check infusion of hay having a larger quantity of green organic deposit than the mercuric-chloride solution containing the same proportion of infusion.

The following is the authors' summary of the work:—

(1) That solution of mercuric chloride in distilled water will keep satisfactorily in white, green, or blue bottles, for a reasonable length of time, if not exposed to direct sunlight. (2) That even in direct sunlight it will keep if protected by the use of amber glass; we therefore recommend the use of bottles made of such glass. (3) That the ordinary white glass bottles, whether of English, German, or French manufacture, as sold to pharmacists, do not appreciably differ in their action. (4) That the minute deposit gradually formed is partly or wholly mercurous chloride. (5) That mercuric chloride with tap-water gives a copious precipitate in blue, green, or white glass bottles; the precipitate will not form, however, in amber bottles or in darkness. (6) That in diffused light amber bottles preserve the solution better than blue, green, or white bottles. (7) That in strong light the amber glass alone is satisfactory. (8) That strong light effects more decomposition than diffused light, especially if tap-water has been used in making up the solution.

The VICE-PRESIDENT said it seemed that the more sunlight they had in the pharmacy the worse it was for their preparations. The point about the use of tap-water was a somewhat small matter, as pharmacists always use distilled water for solutions. Liq. hydrarg. perchlor. was, he thought, always stored carefully in the pharmacy, but there was a possibility of the stock bottle in the warehouse not being excluded from light.

Professor GREENISH explained that the investigation was undertaken at the suggestion of the Council, as an impression was about that the solution did not keep well, and that the glass had a distinct effect on the keeping properties. The point that tap-water only gave a precipitate in the light was of great interest.

Mr. WILSON said at the University College Hospital tap-water is used for mercuric chloride solution, and he had found that the solution changes only after a time. The jars which are used for the solution in the wards become coated with a yellow deposit, which he had been unable to remove.

Mr. FINNEMORE asked for further information as to the deposit of mercurous chloride; he would like to know if a quantitative test was made to determine whether it was chloride or an oxychloride.

Professor GREENISH explained that the coloured precipitate was a mixture of mercuric oxide and chloride.

Mr. MACEWAN asked for a definition of tap-water, as the composition of the water supplied in London varied according to the district. Mr. Collier, of Guy's Hospital, demonstrated to him some years ago that South London water was the best solvent for mercuric chloride. The Glasgow tap-water is better, some consider, than distilled water.

Mr. USHER SMITH, in reply, again explained the nature of the two precipitates obtained, and said he would be pleased to show the effect of the various coloured bottles on the spectrum after the meeting.

The VICE-PRESIDENT then called on Mr. W. H. Lenton, the Northway Butt scholar, to read a paper prepared by himself and Professor Greenish on

EXTRACT OF GENTIAN.

In selecting extract of gentian on which to work Mr. Lenton was guided by the fact that recent researches on the constituents of the root indicate that the official method of preparing the extract is not the best that could be devised. The process differs moreover in principle from that official in many other countries, notably, the United States, Germany, Austria, and Switzerland. Recent investigations have been directed to the isolation and examination of the constituents of gentian-root rather than to a study of the methods by which official galenical preparations are made. Mr. Lenton then proceeded to give a summary of the literature of the subject dividing it under two heads—(1) papers dealing with the constituents of gentian, and (2) papers dealing with the pharmacy of the root. The constituents of gentian are gentiopicroin, the bitter principle which hydrolyses into gentiogenin, and a sugar. Several sugars have been isolated, the most important being gentianose, which is dextrorotatory and does not reduce Fehling's solution. Other constituents

are gentisin or gentianic acid and a gelatinous substance. To the latter is due the gelatinisation sometimes observed in infusion of gentian. Most Pharmacopœias, as pointed out by Bourquelot and Hérissey, order cold water for extracting gentian, by which is obtained 3·25 per cent. of pectose (the gelatinous substance). Cross and Bevan's summary of the work on the enzymic hydrolysis of pectose was next referred to, after which Mr. Lenton spoke of the pharmacy of gentian.

Geissler in 1836 recommended the whole root to be used for making the extract, so as to obtain an extract which forms a clear solution with water. Mohr in 1851 recommended cold extraction, and noted that the clear liquid turned cloudy when being evaporated to extract. Squibb in 1858, in a paper before the American Pharmaceutical Association, said the infusion should be boiled down to three-fourths before straining so as to separate "albuminous matter," whilst Feldhaus in 1861 added alcohol to the concentrated infusion to throw down the pectose. Alcock noted later that it would be better to pour off the infusion from the root before boiling. Mr. Lenton next reviewed the processes in various Pharmacopœias, and gave particulars of experiments made in the Research Laboratory with the object of showing whether the official method exhausts the root sufficiently for practical purposes, whether the boiling is advantageous or prejudicial, whether cold extraction is preferable to the method with heat, and whether an alcoholic menstruum is better than water. The conclusions arrived at were—

(1) That the official method of treatment does not sufficiently exhaust the gentian-root of its bitter principle. (2) That the boiling to which the root is subjected is disadvantageous in that a larger amount of pectin is dissolved than when cold extraction is used. (3) That extraction with cold water is preferable, two successive infusions being necessary. The method official in the German Pharmacopœia possesses certain advantages over that of the B.P., inasmuch as the drug is exhausted by cold infusion; by this process the bitter principle is more effectively extracted, whilst less pectin is dissolved and a better extract is obtained. At the same time the relatively small advantage gained by the addition of alcohol to the concentrated infusions does not appear to justify the adoption of this part of the P.G. process. (4) That although 45 per cent. alcohol thoroughly exhausts the bitter principle, the extract obtained on evaporation of the tincture has the disadvantage of being hygroscopic. (5) That the exhaustion of the root with cold water proceeds slowly. (6) That the infusions obtained from the whole root by the cold-extraction process filter less readily than when the sliced root is used. (7) That gentian-root is not well adapted for percolation with water.

Mr. Lenton submitted the following monograph for insertion in the next Pharmacopœia:—

Infuse gentian-root (whole) in five times its weight of distilled water for forty-eight hours; pour off the infusion, press the mare, strain the expressed liquid, mix the liquids, and concentrate to one-third the original volume of the mixed liquids; filter when cold. Infuse the mare for twenty-four hours with a further quantity of distilled water equivalent to three times the weight of gentian root taken; repeat the processes of decantation, expression, concentration, &c. Mix the two concentrated liquids and evaporate to the consistence of a firm extract.

The VICE-PRESIDENT remarked that the work had been done on a comparatively humble root, and worked to a definite conclusion. He congratulated Mr. Lenton on the results of his work as a Northway Butt scholar.

Mr. BUTT said he was well satisfied with the work done. The object he had in view in instituting the scholarship was to have the Pharmacopœia preparations tested so as to improve them. Mr. Lenton showed that in the case of extract of gentian the official process is not the best. It was at his (the speaker's) suggestion that the research scholar commenced with gentian, a simple subject, perhaps, but one requiring a vast amount of skill and patience.

Mr. NAYLOR, as a member of the B.P.C. Formulary Committee, was glad to see that Mr. Lenton's very laborious experiments were quite in accord with those made by the Formulary Committee when the subject of concentrated infusion of gentian was under discussion.

Mr. MACEWAN hoped Mr. Lenton would complete the investigation, and ascertain if the new extract is as effectual as the old as a pill-excipient, which is what it is chiefly used for.

Mr. WILSON referred to the question of fermentation in making gentian preparations. Whether the root be extracted in the cold or by boiling might influence the bitterness.

Mr. HILLS was glad that Mr. Butt had heard a paper after his own heart, but Mr. MacEwan's remarks made one feel rather humble that such an amount of work had been done for a pill-excipient. It would be interesting to know how far the extract is used as a medicinal agent.

Mr. FINNEMORE objected to gentian being called a humble root, his experience being that there is more of it used than any other root in the B.P. Extract of gentian is not largely used, but to his mind the knowledge that cold water perfectly extracts gentian was the most important point in the paper.

Mr. HOLMES said extract of gentian is largely used as a pill excipient, for which purpose it is necessary that it be not hygroscopic.

Mr. BREWIS asked whether the gentian used was absolutely dry, and what proportion of moisture was present in the finished extract. These factors were important in considering the proportion of extract yielded by the drug.

Mr. UPSHER SMITH said extract of gentian is used on account of its medicinal properties as an ingredient of pills, and not as an excipient.

Mr. MACEWAN: I have frequently seen extract of gentian ordered in quinine-pills.

Mr. GAMBLE: The finest pill-excipient I know is equal parts of extract of gentian and glucose.

Mr. LENTON, replying, said the use of extract of gentian as a pill-excipient had not been lost sight of. The new extract had been tried and found to answer well. The question of the influence of enzymes on the bitterness was rather a difficult one to answer, as although the absolute-alcohol extract is only slightly bitter, if the marc is extracted with 50 per cent. alcohol an intensely bitter product is obtained.

The VICE-PRESIDENT moved votes of thanks to the readers of the papers, and mentioned that the next meeting would be on April 15, when Dr. Augustine Smith would read a paper on "Chinese Drugs."

Professor GREENISH pointed out that the Society's officials and scholars had contributed all the days during the past session, and said he would be glad if some other contributors would come forward.

Coffee was afterwards served in the examination-hall.

ANNUAL DINNER.

A meeting was held in the Society's House on Wednesday, March 12, to make arrangements for the twenty-ninth annual dinner on May 27 next.

Bankruptcies and Failures.

Re THOMAS PHILIP GARRETT (trading as Garrett Brothers), 33 Commercial Road, Newport, Mon., Chemist and Druggist.—The adjourned examination of this debtor was resumed at Newport on March 6. Particulars of the failure were given in our issue of January 25 (page 174), and after further questioning the examination was closed.

Re EDWARD DAVIES, 25 High Street, Abergwynni, Herbalist.—At Neath on March 4 this debtor, a coal-miner, came up for his public examination. Debtor had got into difficulties through launching into a partnership with a man named Evans as herbalists. He commenced the partnership in 1899, and it was determined on the terms that debtor should pay his partner's share in the stock, 3*l*. 11*s*.; that amount had not been paid. He had borrowed 7*l*. 6*s*. and paid 4*l*. 6*s*. 11*d*. for herbs and medicines and 3*l*. 6*s*. for books. The deficiency was 70*s*. 17*d*. Cross examined by the Registrar debtor said, "Oh, I don't know; Evans was the doctor in the herb business." They bought about 3*l*. worth of herbs from a London firm. That was their stock. The examination was closed.

Re HERBERT HENRY PRESBURG, 73 Church Street, Camberwell, trading as Moody & Catterns, Pharmaceutical Chemist.

The first meeting of creditors in this case was held on March 10 at the London Bankruptcy Court before Mr. E. S. Grey, Official Receiver. The debtor purchased the business three years ago for 620*l*. He had previously entered into partnership with two others for the manufacture of "Vitalia," a chemical food. That business was taken over in May, 1900, by Vitalia (Limited), and since October last the debtor has acted as manager, leaving the

chemist's business to the care of his brother. The accounts filed by the debtor show liabilities 206*l*. 18*s*. 4*d*. against assets 99*s*. 3*s*. 4*d*., and the failure is ascribed to bad debts and keen competition of the stores. No offer was submitted, and the case was left in the hands of the Official Receiver to be wound up in bankruptcy. The public examination of the debtor was fixed for April 11. Appended is a list of the principal creditors, viz.:—

	£ s. d.
<i>Unsecured.</i>	
Bredall, John, Croydon	14 15 0
Horner & Sons, Mitre Square, Aldgate	13 14 9
Leathley, Charles, Clapham	10 0 0
Maw, Son & Sons, Aldersgate Street, E.C.	11 1 10
Meggeson & Co. (Limited), 14 Miles Lane, E.C.	20 14 1
Moreton, W., East Dulwich	11 10 0
Ward & Son, Camberwell Grove	10 11 6
<i>Preferential.</i>	
Rent	17 10 0
Rates, taxes, and wages	21 14 8

Re PETER CAMPBELL FORBES, formerly carrying on business as a Chemist at Morley.

DEBTOR was examined at the Dewsbury County Court on Tuesday, March 11. The history of his business venture was related in the *C. & D.*, November 23, 1901, page 843. He now repeated the leading facts. He had not kept books, and never taken stock, except in 1897, when he believed a balance-sheet which was prepared showed a surplus of 1,800*l*. He did not dispose of his book debts. He first became aware of his insolvency in November, 1900, before he sold his business. He distributed the purchase-money among the creditors who were pressing him most. From the middle of 1900 to the date of the receiving order (October 4, 1901) he was proceeded against eighty times, and had a sheriff's officer in possession from May last year to his failure. At that time he expected to have a partner in the bill-posting business he was carrying on, who would introduce 1,000*l*. capital. He gave 400*l*. for the bill-posting business in 1894. The Official Receiver (Dr. E. E. Deane) stated that the trustee was not present, nor legally represented, because the accounts filed by debtor were absolutely worthless, and it was impossible to investigate his affairs in the absence of books. The trustee pointed out that debtor's accounts showed payments to exceed receipts by 1,488*l*. No vouchers had been produced by debtor, who had not filed a proper deficiency account, as he had explained a deficiency of 3,401*l*. while the real deficiency was 830*l*. One of the items in this account was, "Money lent to worthless friends, 228*l*." Further examined, debtor stated that two months before filing his petition he gave a deed of assignment to a gentleman named Brown to cover payment under a sheriff's execution of 135*l*. The Official Receiver commented strongly on the absence of books, remarking that when a man with three chemists' businesses, and a mineral-water business, besides a bill posting business, did not keep proper books he was placing the money of his creditors in jeopardy. The Bankruptcy Act had been in force since 1883, and its requirements were well known. He asked that the examination should be adjourned *sine die*. Debtor appealed to the Registrar to close the examination. He said that he wished to get into business again, in order that he might pay his creditors in full. The Official Receiver pointed out that debtor had tried to get the bill-posting business transferred to his wife, which was not helping the creditors, but putting a difficulty in the way of selling the business. A Mr. C. S. Brown was present in court, and alleged that debtor had obtained money from him by improper means—by assigning to him property which did not exist, also that he had got from his friends 1,000*l*. in this way. The examination was adjourned *sine die*.

Gazette.

Partnership Dissolved.

Inman, J. R., and Whitford, R. G., under the style of J. R. Inman & Co., and The Phoenix Chemical-works, Liverpool, chemical-manufacturers.

The Bankruptcy Acts, 1883 and 1890.

RECEIVING ORDERS

Harrington, John, Newcastle-on-Tyne, wholesale drayalter.
Rutherford, Cuthbert, county of Durham, doctor of medicine.

Legal Reports.

High Court Cases.

HOW GLYCERIN IS PURIFIED.

IN the Chancery Division on March 7, Mr. Justice Buckley had before him a petition by Joseph Crossfield & Sons, of Quay Bank Soap and Chemical Works, Warrington, and Simon Joseph Studer, of Stockton Heath, for the revocation of letters patent granted to Ernest George Scott in 1897. Mr. Lewis Edmunds, K.C., and Mr. Favi Fulton appeared for the petitioners; and Mr. Walter and Mr. Gray for the respondents.

Mr. Walter, in opening the case in support of the patent, said that it was an invention of Mr. E. G. Scott, and had been assigned by him to Mr. Frank W. Scott, the second respondent. It was sought to set aside the patent on the grounds that the invention had been publicly used by the petitioners prior to the date of the patent at the Quay Bank Works, that it was in accordance with an invention of the second petitioner, Mr. Studer, that Mr. E. G. Scott was not the true and first inventor, that it was in accordance with drawings of a design by Struder in 1895 which had been commercially operated by Crossfield & Co., and they alleged that Scott had obtained the invention from them. The petition alleged that Mr. E. G. Scott had access to the works of the petitioning company at Warrington, and had every opportunity of making himself acquainted with the working of their plant and the results obtained. Petitioner also alleged inefficiency of Mr. Scott's invention, which relates to an improvement in connection with the concentration and distillation of glycerin. From 1885 to 1890 Mr. Scott had control of the glycerin and caustic-soda department of Messrs. Lever & others (Limited). Mr. Scott invented long before the date of the patent in question a process now used by 90 per cent. of glycerin manufacturers of this country for the distillation and refining of glycerin. It consists of introducing into the vessel containing the crude glycerin superheated steam. The steam carries the glycerin into an apparatus called an air-battery, in which the steam is partially cooled and the glycerin deposited mixed with water. The air-battery is so arranged and of such a size that, whilst the superheated steam, in passing out of the battery, is cooled, it should still leave the battery as steam. As the superheat comes out of the steam the glycerin separates, and is mechanically deposited in the chamber. A certain proportion, however, always escapes with the steam, that proportion varying, but never less than 3 per cent. of the glycerin is carried out of the air-battery and passes into the condenser, where the steam is condensed into water. That minimum of 3 per cent. of the glycerin becomes mixed with the water and other impurities, and is for all practical purposes lost, so that there is a loss of 17. on every ton of glycerin distilled. Mr. Scott, in the invention in question, places a condenser between the air-battery and the water-condenser, and by that means succeeds in getting practically the whole of the glycerin.

Mr. Scott, who was called in support of his patent, said that in 1893 he erected glycerin-plant for the petitioners. At that time they were making only crude glycerin, and that by the old system of heating over an open fire. From the autumn of 1894 until 1898 he did not see any of the petitioners' refining or concentrating plant. He first saw the drawings of Studer's in 1898. He had never seen any plant in the petitioning company's works made in accordance with these drawings.

Mr. Lewis Edmunds, K.C., in opening his case, said he would call witnesses to show that this additional condenser had been working in the petitioners' premises for some years before the patent was taken out in 1895, and it is working up to the present day. That condenser extracts all the respondent claimed in his specification.

Dr. Karl Makel, managing director of the petitioning firm, Joseph Crossfield (Limited), and also a trustee of that firm, was then examined. He said that in 1894, when Mr. Scott fitted up his apparatus in the works of the petitioning firm, he (witness) was not perfectly satisfied with the results of Mr. Scott's arrangements. One disadvantage was that a considerable loss of glycerin was entailed. Tests showed

that by that particular method of condensation 3 or 4 per cent. of glycerin evaporated at the still. Witness afterwards devised a practical condenser, which condensed part of the steam and all the glycerin.

After further evidence had been heard, Mr. Edmunds summed up the petitioners' case.

Mr. Justice Buckley, in giving judgment, said he was satisfied that what the petitioners had done was not what was claimed by the patentee, and they had not reached the result that he had acquired; they had not grasped the patentee's idea. The whole point was how to deal with the vapour so as to get the maximum of glycerin and the minimum of water. The petitioners had not reached the valuable result which the patentee had attained. The operation of the patentee's cooler was that he cooled the bulk of the vapour in detail; the petitioners' apparatus failed for the reason that it tried to take the vapour too much in bulk. He found that there had been no prior user, that the invention was a good one, and that the patentee was the first and true inventor. For these reasons the petition failed, and must be dismissed with costs.

On a petition to revoke a patent of Scott's dated 1900 the respondent did not oppose, but submitted that the petitioners should pay the costs occasioned by charges which they could not sustain. His Lordship directed revocation of the patent, but ordered the petitioners to pay such costs as were occasioned by the charges referred to.

ROYAL BAKING POWDER TRADE-MARK.

MR. JUSTICE FARWELL has this week given judgment in the application of the Royal Baking Powder Company, of New York, for the registration of a trade-mark, consisting of a wrapper, one half of which contained the words "Royal Baking Powder" in white letters on a red ground, with the representation of a tin (with the same words on it) printed in the centre of it, and with the name of the firm on a scroll at the four corners. The other half had a description of the powder, directions for use in English and German, and the name and address of the makers printed on a yellow ground. When the application came on for hearing the Comptroller directed that the following statement should be inserted:—"The essential particular of the trade-mark is the combination of devices, and the applicants disclaim any right to the exclusive use of the added matter except in so far as it consists of their own name." The applicants thereupon inserted the words:—"The essential particular of the trade-mark is that it is a distinctive label," but did not insert any disclaimer. The Comptroller refused to register the mark, and the applicants thereupon appealed. Mr. Justice Farwell held that what was contained in the yellow portion of the label was "added matter" within the meaning of Sub-section 2 of Section 64 of the Act, and that the applicants should have disclaimed in their application any right to the exclusive use of it. He therefore dismissed the application, with costs.

County Court Cases.

THE WIFE NOT THE PRINCIPAL.

AT the York County Court on March 4, Messrs. Bleasdale (Limited), wholesale druggists, York, sued Mrs. Fewster, of Dewsbury, for 27l. 9s. 2d., for goods supplied. Mr. Crombie, for the plaintiffs, said the defendant was the wife of Mr. W. L. Fewster, who, before becoming bankrupt in the latter part of last year, carried on business as a chemist at two shops in Dewsbury. When a writ was issued by the plaintiffs for the amount, he found out that one of the businesses when Mr. Fewster filed his petition was claimed by his wife. To that shop they had sent goods ordered by Mr. Fewster. Mr. Arthur Humphreys, secretary to the plaintiffs, gave evidence in support of the statement of Mr. Crombie, but under cross-examination it was shown that a representative of the plaintiffs had received certain payments, and had receipted invoices for some of the items. Mr. Fewster was called, and, in the course of his evidence, said the shop in question belonged to his wife. If any goods had been sent there by the plaintiffs they were for him, and for his convenience they were sent to that address. His wife got her goods from him. Judge Templer said he did not think the plaintiffs had any case, unless they could show agency, and

also that Mrs. Fewster was principal. A verdict for the defendant, with costs, was accordingly given.

FOR A SODA-FOUNTAIN CATALOGUE.

AT the Clerkenwell County Court on March 10, before Judge Edge, E. R. Alexander & Sons, lithographic printers, Leyton, sued N. W. Stiles & Son, 72 and 74 Gray's Inn Road, W.C., to recover 10*l.* 10*s.* for a sketch for a three-colour process block to be used on a catalogue cover. It appeared from the evidence that the sketch first submitted showed a young lady, and defendants wanted a counter added and one of their soda fountains on it. The finished sketch did not please them, and plaintiffs stated that another would cost 5*s.* The price for 10,000 copies of the catalogue was to be 110*l.* Defendants repudiated the whole transaction.

Mr. Stiles, jun., said he told plaintiffs' representative that they were negotiating with four other firms. They were all to submit sketches at their own expense, and they would not be paid unless their particular sketch was accepted for the catalogue cover. Other evidence was given, and after hearing it the Judge said he thought the weight of evidence was in favour of plaintiffs, and gave a verdict for plaintiffs for the amount claimed, with costs.

New Companies & Company News

ROLLS AND LINOMS (LIMITED).—Capital 10,000*l.*, in 1*l.* shares. Objects: To adopt an agreement with G. W. Miller and E. F. Briggs (as executors of the late H. J. Rolls), and to carry on the business of manufacturers and sellers of varnishes, paints, &c.

CROCKETTS (LIMITED).—Capital 3,000*l.*, in 1*l.* shares. Objects: To acquire and carry on the business of mineral-water manufacturers, bottlers of ale and stout, and other similar businesses and agencies carried on by J. J. Lewis at Bowling Green Terrace, Worcester, as "Crockett, Sheppard & Co." Registered office, Bowling Green Terrace, Worcester.

JAMES JOHNSTONE & CO. (GLASGOW) (LIMITED)—Registered in Edinburgh. Capital 20,000*l.*, in 1*l.* shares. Objects: To acquire the business carried on by James Johnstone and J. Steel as "Johnstone & Co.", at 12 and 14 George Street, Mile End, Bridgeton, Glasgow, and to carry on the business of manufacturers and dealers in paints, oils, colours, varnish, enamels, stains, white and other leads, and drysalteries of every kind. Registered office, 121 W. Regent Street, Glasgow.

CAPE GLASS COMPANY (LIMITED).—Capital 100,000*l.* in 1*l.* shares. Objects: To carry on the business of glass manufacturers, makers of glass bottles, jars, tubes, table-ware, electric goods, and rolled, sheet, plate, and other glass goods for any purpose. Minimum cash subscription 20 per cent. of any shares first offered to the public. The first directors are A. L. Elwes, J. H. Brodie, J. W. Bailey, and J. Forster. Qualification 500*s.* Remuneration 100*l.* to 250*l.* each per annum, according to profits. Registered office, 110 Cannon Street, E.C.

"OOWANA" (LIMITED).—Capital 20,000*l.* in 1*l.* shares. Objects: To acquire the business carried on at 205 Victoria Street, S.W., by the "Oowana Soap Company (Limited)," and to carry on the business of soap-manufacturers and merchants, dealers in oils, oleaginous and saponaceous substances and all kinds of unguents and ingredients, wholesale, retail, and manufacturing chemists, druggists, perfumers, &c. Minimum cash subscription, 10 per cent. of the shares first offered to the public. The subscribers are to appoint the first directors. Qualification (except first directors), 500 shares.

BAYARD FILS ET BAYARD (LIMITED).—Capital 25,000*l.*, in 10,270 Seven per cent. cumulative first preference shares of 1*l.* each, 1,300 Ten per cent. cumulative ordinary shares of 10*l.* each, and 173 deferred shares of 10*l.* each. Objects: To take over the business of soap and perfumery manufacturers carried on by the Standard Soap and Perfumery Company (Limited), at Scrubbs Lane, Willesden, and the business of manufacturing chemists carried on by Bayard, Sons & Bayard (Limited), and to carry on the business of soap and perfumery manufacturers, agents, and mixers, chemists, druggists, drysalters, oil and colourmen, &c. No initial public issue. The first directors are R. G. Orr, F. C. Van Duzer, and W. Hall. Qualification, £0 ordinary shares. Remuneration, 2*l.* 2*s.* each per board meeting attended (maximum 10*l.* each per annum).

WILKINSON'S TEETH EXTRACTING AND ADAPTING COMPANY (LIMITED).—Registered in Edinburgh. Capital 1,000*l.*, in 1*l.* shares. Objects: To acquire and carry on the business carried on by James Wilkinson, at 67 High Street, Dunfermline, and Ivy Cottage, Leven, Fife, as an extractor of teeth and maker and fitter of artificial teeth in all branches. The first subscribers are:—H. Wilkinson, 67 Bank Street, Coatbridge, teeth-extractor; C. Wilkinson, 67 Bank Street, Coatbridge, housekeeper; C. Edwards, 67 Bank Street, Coatbridge, tooth-manufacturer; J.

Corrancce, 50 Main Street, Coatbridge, accountant; Joseph Lambert, 52 Blairgrove Place, Coatbridge, draper; James Lambert, 52 Blairgrove Place, Coatbridge, clerk; and E. Edwards, 124 Pleasantance, Edinburgh, sculptor. James Wilkinson is permanent director. Registered office, 67 Bank Street, Coatbridge.

T. G. HUGHES (LIMITED).—Capital 1,000*l.*, in 1*l.* shares. Objects: To acquire the business of a chemist, druggist, drysalter, and wine and spirit merchant carried on by T. G. Hughes at Bradley Green, Biddulph, Staffs, and to carry on the business of wholesale and retail druggists, chemists, drysalters, wine and spirit merchants, oil and colourmen, tobacconists, manufacturers of and dealers in proprietary articles, opticians, makers of photographic, surgical, and scientific apparatus and materials, &c. The first subscribers are:—T. G. Hughes, High Street, Bradley Green, Staffs, wine and spirit merchant; Mrs. B. M. Hughes, High Street, Bradley Green, Staffs; J. W. Deakin, Ingledene, Northwich, Ches., chemist; Miss J. Deakin, Lyndhurst, Northwich, Ches.; Miss S. Deakin, Lyndhurst, Northwich, Ches.; Mrs. S. Deakin, Lyndhurst, Northwich, Ches.; and W. H. Poole, 15 The Crescent, Northwich, Ches., decorator. No initial public issue. Thomas G. Hughes is managing director. Qualification, 1 share. Registered office, High Street, Bradley Green, Biddulph, Staffs.

HILL, EVANS & CO., WORCESTER.—The report of the directors of this Company records a balance of 8,530*l.* From this has to be deducted 2,000*l.*, the dividend on the preference shares, leaving 6,530*l.* to be dealt with. The directors recommend that 850*l.* be placed to reserve, 150*l.* reserve for premium on first mortgage debenture stock, dividend on the ordinary shares, and making 9 per cent for the year. 3,500*l.*; carry forward, 2,030*l.* The profit on the trading, 17,522*l.*, is above the average for the past five years. The directors have acquired the business of Messrs. Waters & Son, and the sole proprietorship of Robert Waters' Quinine-wine and Waters' Coca-wine.

BARCLAY & SONS (LIMITED).—The directors have issued their report and accounts to the shareholders, showing a gross profit on last year's trading of 11,305*l.*, the net profit after writing off bad debts, making ample allowance for doubtful ones, and adding a balance of 239*l.* from 1900, being 3,780*l.* Of this 2,050*l.* is set aside as interest on debentures and full dividends on the preference shares, and of the balance 958*l.* is apportioned to pay 5 per cent. dividend on the ordinary shares. The directors propose to write 400*l.* off the capital account, to place 100*l.* to reserve, and to carry forward the balance of 272*l.* Mr. Horace Davenport, Chairman of the Board of Directors, is the retiring director, but offers himself for re-election at the meeting to be held at 95 Farringdon Street on Wednesday, March 19.

SPRATT'S PATENT (LIMITED).—At the annual meeting of the shareholders of this company, held in the Cannon Street Hotel on March 11 under the presidency of Mr. G. B. Batchelor, an account was given by the Chairman of the building operations that have gone on during the past year, upon which a sum of 33,000*l.* has been expended. It was also stated that the Fenchurch Street showrooms had been rearranged, and that the capital assets of the business amount to over 500,000*l.*, although the nominal share-capital is only 200,000*l.* Business during 1901 was eminently satisfactory, as may be gathered from the fact that a dividend of 10*s.* on the ordinary shares, making, with the interim distribution, 16 per cent. for the year, was declared, besides a bonus of 5*s.* per share.

SOUTHALL BROTHERS & BARCLAY (LIMITED).—The directors' report and balance-sheet for the year ended December 31, 1901, states that having purchased the goodwill of a manufacturing business last year out of revenue, the directors have set aside, out of the year's profits, a sum for creating an inner reserve fund. This has been done after placing 1,000*l.* to the published reserve fund, and carrying forward 1,394*l.* to next year's account. The accounts show that, after providing for bad debts, depreciation, directors' remuneration, and the creation of an inner reserve, there is a balance of profit of 11,604*l.* for the year, which, with the balance brought forward (1,346*l.*), makes a total of 12,951*l.* Out of this 756*l.* has been paid for interest on loans, and an interim dividend on the preference shares of 1,750*l.*, leaving a balance of 10,444*l.*, which the directors recommend should be appropriated in paying a second half-year's dividend on preference shares at the rate of 5 per cent. per annum, and (1,750*l.*) a year's dividend on ordinary shares at 10 per cent. per annum, in carrying 1,000*l.* to reserve, and 1,394*l.* forward.

Things that Happen—Sometimes.



The Last Straw.

He has fought with competition and has struggled with adversity,
And many times has wondered at the ever-growing scarcity
Of customers, and apprentices who rushed from University

To flutter in the pharmaceutical fold.

And so he goes a travelling, the reason to investigate,
And finds each fertile pasture field is keenly guarded, lest a gate
Be open for encroachment, and the stranger wish to rest a gait;

And these things make him shiver, hot and cold.

He sees palatial buildings, and is struck with curiosity;
So calls on many brethren, who regale him with verbosity,
And sanguinary statements of the Cutler's animosity,
And methods of accumulating wealth.

He sails the troubled waters and he yearns but for a calmer sea,
But stubborn Fate keeps track of him; and, while he flies from
harm, you see,
Encounters that abortion called an automatic pharmacy,

Where you simply press the button for your health.

The Poisons Committee.

THE Poisons Committee sat at Whitehall on Monday, Tuesday, and Wednesday of this week, Sir Herbert Maxwell, M.P., in the chair. There were also present Mr. A. Cross, M.P., Professor T. E. Thorpe, Professor W. A. Tilden, Dr. Stevenson, Mr. W. Hills, Mr. J. H. Harrison, and Mr. E. B. Masham (Secretary). The following witnesses were examined:—Mr. R. Bremridge (legatee of the Pharmaceutical Society), Mr. J. Rutherford Hill (Assistant Secretary of the Pharmaceutical Society in Edinburgh), Dr. W. L. Muir, of Glasgow, Mr. C. Beck (of Messrs. E. and J. Beck, Limited), Mr. R. Le Neve Foster (manager of Messrs. Calvert & Co.), Dr. R. B. Selby, of Wigtownshire, Mr. H. Cannell, horticulturist, Mr. J. Bowen-Jones and Dr. Voelecker, of the Royal Agricultural Society, and Mr. W. J. Leggett and Mr. A. W. Lobb, representing patent-medicine interests.

The foregoing is an official report. Sir Herbert Maxwell was not present on Monday, and Dr. Thorpe took his place in the chair. Mr. Cross was also absent. Amongst the witnesses on Monday afternoon was Mr. William Limont Muir, L.R.C.P.E. and L.F.P.S.G., of Dennistoun, Glasgow, formerly a chemist and druggist, who appeared as the representative of the Scottish Poor Law Medical Officers' Association and the Eastern Medical Society of Glasgow. His evidence, in view of the doctors' shops controversy, is rather interesting. He said: When the Pharmacy Act, 1858, was passed it was the intention of the Legislature that the ordinary statute law of the land would be followed

—namely, that the master would be responsible for his servants. This was the reading of the Act for over twenty years, when, by a decision in the High Court of England (ultimately acquiesced in by the High Court in Scotland), it was held that in the Pharmacy Act it was the person who actually handed the poison who was the responsible party, thus overturning the law of master and servant. It followed that any person legally qualified to sell scheduled poisons (medical practitioners or druggists) was at the mercy of the unqualified assistants or apprentices, who might, contrary to distinct instructions, during the temporary and necessary absence of their principal, sell a scheduled poison, and thus break the law. In the case of druggists, the assistant was prosecuted, but the principal escaped Scot-free, and no penalty was exacted, whereas in the case of a medical practitioner the assistant was prosecuted, but the principal was hauled before the Medical Council and found guilty of infamous conduct, which to him meant professional ruin. He further pointed out that for 300 years in Scotland medical men had been in the habit of keeping open surgeries, and selling to the public drugs of all kinds; at one time in the West of Scotland the Licentiate of the Faculty of Physicians and Surgeons of Glasgow had the exclusive right under their diplomas to be sellers of drugs. Taking the city of Glasgow, north of the Clyde and east of High Street, there were only at present about fifteen shops owned by druggists, while at least 100 medical men kept open surgeries, and the number of medical men who did not keep open surgeries was only about six or seven, thus showing the almost universal custom in that part of Scotland. From his personal knowledge and to the best of his belief this was the position which was more or less universal throughout the whole of Scotland. In the cities and large towns it was only possible for medical men to comply with the present reading of the law at considerable pecuniary loss to themselves, as well as great inconvenience to the general public. In the country districts of Scotland it was absolutely impossible for medical men to act otherwise than sellers of drugs, including poisons frequently required as drugs, to the general public, because practically in the great majority of outlying districts there was no druggist within many miles, and, in fact, no druggist could make a living in those districts. He went on to contend that the carrying out of the present reading of the Pharmacy Act would be impossible in the public interest, and, if carried, or attempted to be carried out, would mean the conviction by the Medical Council of not less than three-fourths of the medical practitioners in Scotland of infamous conduct, a state of things which, in his opinion, would be intolerable, and was never intended by Parliament. It was, he submitted, in the public interest that facilities should be given to the public for procuring necessary drugs. In the case of those poisons in the schedule of the Pharmacy Act it could make no difference to the public safety whether the poison was personally handled by the principal (medical man or druggist) or by his assistant or apprentice, so long as the required safe-guards were carried out in regard to Schedule A, Part 1, by requiring the purchaser to be known to the seller, or by bringing a witness, and the transaction being duly entered in the poison-book, or, in the case of Part 2, the name of the principal the name of the drug, &c., appearing on the label. A strict reading of the Act as at present carried out meant, in his opinion, that in large establishments, where one or more qualified assistants were employed, each assistant would require a distinct and separate poison-book and set of labels, with his name and not that of his principal. He then went on to allege that it would be a public danger were the dispensing of scheduled poisons and other drugs taken out of the hands of medical men and put solely into the hands of druggists, because many drugs, particularly narcotics, were only of use in a temporary way, and the medical man could stop the supply any time, whereas in the case of the druggist he went on supplying the narcotic as often as the prescription was handed to him, quite irrespective of whether it was required or not. In conclusion he expressed the opinion that it was undesirable, in the interest of fair play and justice, that the Pharmaceutical Society should be the prosecuting authority under the Act, as it was an interested party.

On the same day (Monday) the evidence of Mr. Rutherford Hill was taken, and Mr. Bremridge was called on Tuesday.

Observations and Reflections.

By XRAYSER.

Dover's Powder,

which secured the tiniest reference among the seven personally named remedies of the German Pharmacopœia quoted from the *Apotheker Zeitung* last week, had been famous 150 years when tuberculinum Kochi came into the physic-market, and few there are who would not back the old compound against the young one as a stayer yet. "Thomas Dover," says the German journalist, "was a London doctor, and died in 1741." That is all he tells of him; what a generous record! Old Dover was no *savant*; he discovered no bacilli; he was a good way on the road towards quackery; and yet I fancy his life is better worth narrating than are those of half of the famous men of medicine stamped with the hall-mark of any university whatsoever.

"The Ancient Physician's Legacy

to his Country—Being what he has collected himself in Forty-nine Years' Practice. Or an Account of the Several Diseases incident to Mankind, described in so plain a Manner that any Person may know the Nature of his own Disease. Together with the several Remedies for each Distemper faithfully set down. Designed for the Use of all Private Families." That was Thomas Dover's sole contribution to literature, and therein his famous formula is contained. It was published in 1732, when he was past 70, and he lived nine years longer. But Thomas felt he had a message to deliver, and he had but little faith in the "clan of prejudiced gentlemen," as he termed the Royal College of Physicians. They returned his contempt; or more probably they began the squabble, for Dover tells in his book that they had referred to him in derision as "the quicksilver doctor." But it was a title in which he gloried. He had immense faith in quicksilver, "this precious jelly of metals as it may be called." It makes a pure balsam of the blood, he says; that is why it cures venereal complaints. You all give it, he adds, but you disguise it. I give it in an honest, open manner. You give it combined with sulphur, the worst excipient you could find, in the form of Ethiop's mineral. That is like striking a man with a sword in a scabbard. They (the clan of prejudiced gentlemen) say it is a poison. "Their opinion is a sign they have travelled far at home." He advises them to "take a trip to Hungary and visit the mines where the quicksilver is dug. They may there see slaves working entirely naked to prevent them stealing the metal." But these slaves, it appears, dodged their taskmasters "by swallowing every day so much that they buy a choppin of drink with it at night."

Dover was Born

somewhere in Warwickshire in 1620. How he got his medical training is not known, but sometime in his youth he lived in the house of the famous physician Sydenham. There he had smallpox, and his treatment is worth recording. First he was bled to the extent of 22 oz.; then he had an emetic. It was January; he had no fire in his room, the windows were always kept open, and the bed-clothes were only allowed up to his waist. The medicine he took was twelve bottles of small beer, acidulated with spirit of vitriol, every twenty-four hours. Having resisted both the disease and the treatment he is first heard of in practice at Bristol in 1634. He plodded on there till 1708, when at the age of 48 he set out with a privateering party on a voyage round the world. They had two ships, the *Duke* and the *Duchess*. Captain Woodes-Rogers, who has

left an account of the expedition, was in chief command, and Dover, who had charge of the *Duke*, was his second. He must have been on the sea in his early life, or he wou'd hardly have been chosen to command a vessel. The buccaneers were away from England three years, and they came back with a Spanish frigate of twenty-one guns and lots of loot. Among the other events of the voyage was one of world-famous importance. On February 2, 1709, Dover touched at the island of Juan Fernandez, and brought away from it Alexander Selkirk, who had been there alone four years and four months, and who was to be the prototype of the immortal Robinson Crusoe.

A Few Months Later

the expedition landed at Guayaquil, in Peru. Having sacked the city and stored their plunder in the ships, the sailors slept in the churches, and Dover records quaintly how they were annoyed by the smell of the corpses. For plague was raging in the place at the time, and the victims were laid just below the floor with only a plank or two to cover them. Forty-eight hours later, after they had again put to sea, a large number of the sailors were attacked by the disease. One hundred and eighty of them altogether had it. Dover, who had four surgeons under him, ordered them to be bled freely, and he says about 100 oz. of blood was taken from each man. The surgeons went round and started the bleeding, and only stopped it when they had made their rounds. Then he gave them spirit of vitriol, and only seven or eight died. Returning to England Dover practised in Cecil Street till 1728, when he is again missed for two or three years. From 1731 to 1736 he lived in Arundel Street, Strand. There he wrote his book, in the preface of which he quotes Dr. Radcliffe's opinion that it is expedient that young gentlemen entering our profession should travel. "If travelling be necessary to make an accomplished physician," Dover remarks, "I am very sure that I have travelled more than all the physicians in Great Britain put together."

His Diaphoretic Powder

is prescribed in his book in a chapter on gout. The formula differs, but the resulting compound is practically the same thing that we call Dover's powder. The original formula was as follows:—

Take opium 1 oz., saltpetre and tartar vitriolated each 4 oz., liquorish 1 oz., ipecacuanha 1 oz. Put the saltpetre and tartar into a red-hot mortar, stirring till they have done flaming. Then powder them very fine; after that slice in your opium; grind these to a powder, and then mix the other powders with these. Dose: from 40 to 60 or 70 gr., in a glass of white-wine posset going to bed, covering up warm, and drinking a quart or three pints of the posset drink while sweating.

In two or three hours at furthest the patient will be free from pain; and, though before not able to put his foot to the ground, 'tis very much if he cannot walk next day. The remedy may be taken once a week or once a month.

A Side-light

on the relations between doctors and apothecaries in the early years of the eighteenth century is thrown by Thomas Dover's treatise. In a chapter on ague (for which he says bark is the best medicine known to mankind, though he wishes he could have the resinous quality of it separated from the earthy part) he remarks that he cannot prescribe to please the apothecaries. He cannot bring a fever case to 3/4, though he has known apothecaries who have run up their bills in such cases to 40/-, 50/-, or 60/-. Every time a physician writes, he says, it is supposed to put 10/- or 12/- in the apothecary's way. Then, as a postscript, he prints the following on the last page:—

N.B.—Having taken notice of some errors in the practice of other physicians, I shall frankly own one in my own; I have hitherto been too zealous in recommending one particular apothecary, but am resolved, for the future, to let all my patients make use of any apothecary they like best, which I think is but doing justice to the gentlemen of that profession.

Whether this was a really honest repentance, or whether the one particular apothecary had offended Master Dover, doth not appear.

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Editorial Comments.

The Threatening Danger.

SIR HERBERT MAXWELL presented a petition to the House of Commons on Tuesday in favour of "the Trade in Poisons and Poisonous Compounds Bill" from upwards of 1,000 horticulturists, &c. I had never heard of the introduction of a Bill bearing that title, and called the right hon. gentleman's attention to the fact that it did not appear on the papers of either house. After some inquiry he found that I was right, and with amusement he confessed that the petition had been sent to him and that he had simply presented it. I learned, however, that if the Bill ever comes before Parliament its object will be to protect agriculturists and horticulturists from being proceeded against under the Pharmacy Act for the use of various poisons, such as insecticides, &c.

So writes our parliamentary representative. We know the Bill—Mr. Dobbs's baby—and we give emphasis to the paragraph because it is timely, and especially because Sir Herbert Maxwell is chairman of the Committee on Poisons. His reputation for level-headedness had led us to hope that Sir Herbert would conduct the inquiry to the end in a thoroughly impartial manner, for upon him as chairman must rest to a great extent the responsibility of reducing the report of the committee to fair and practicable recommendations based upon all the evidence. But the untimely mishap of Tuesday evening shows that the chairman of the Poisons Committee is an ally of Mr. Dobbs, therefore antagonistic to the existing statutory provisions which Mr. Dobbs and the manufacturers, who back him well, are so desirous of emasculating. This is by no means the solitary incident since the inquiry commenced which demonstrates to those who are qualified under the Pharmacy Act, 1863, that they have a stiff fight before them, and we must repeat, what we have said so often, that the majority of pharmacy leaders in town and country have failed to recognise how dangerous this inquiry is to the craft. The terms of the instructions to the committee were to consider the poison-schedule of the 1868 Act, and ascertain whether circumstances that have occurred since then make the parts of the Schedule A as they now stand suitable for the present time. The committee were also asked to report what addition or

other changes should be made, and chiefly they were asked to say whether, in their opinion, another part should be added to the schedule, and what should be placed in that part. These instructions are definite enough, but the inquiry has really wandered over a very wide field, and, as may be judged from the evidence of Mr. Muir given in this issue, it has been quite discursive in character, not to say abusive of the Pharmaceutical Society. The evidence has been overwhelmingly against the existing state of things—that is to say, the witnesses have been more numerously drawn from anti-pharmaceutical sources. We may group them as follows:—

Pharmaceutical	Anti-pharmaceutical	Neutral
Mr. C. B. Allen	Mr. Jas. Cockburn	Mr. C. Beck
Mr. Bremridge	Mr. H. Connell	Mr. R. G. Crawford (for Board of Agriculture)
Mr. Carteighe	Mr. Isaac Connell	Mr. W. J. Leggett
Mr. W. G. Cross	Mr. W. Darlington	Mr. A. W. Lobb
Mr. J. R. Hill	Mr. Dobbs	Dr. Selby
Mr. Newsholme	Mr. Le Neve Foster	Dr. Wynn Westcott
Mr. J. W. Sutherland	Mr. A. F. Giles	
	Mr. J. B. Jones	
	Mr. J. L. Major	
	Dr. W. L. Muir	
	Mr. T. V. Pettifer	
	Mr. R. H. Smith	
	Dr. Voelcker	
	Mr. W. G. Whiffen	

The most peculiar feature of the inquiry has been that the pharmaceutical witnesses were called first, and the whole tide of evidence thereafter was directed to throw up a big bank of support for the Dobbs proposal. The late Mr. Martindale, handicapped as he was, felt keenly—too keenly, alas ! the danger, and insisted that other pharmaceutical witnesses should be heard. Accordingly the Secretary and Assistant Secretary of the Society were heard this week. By "anti-pharmaceutical" we do not mean that all the witnesses grouped in the second column are antagonistic to pharmacy and pharmacists as such. Some of the witnesses testified to the efficiency of the provisions for ensuring adequate education of dispensers of medicines, but the object of the evidence by this class as a whole was to prove that a trade in poisons for agricultural and industrial purposes, apart from the drug-trade, exists, and should be legalised. The fact was not emphasised that this trade has grown because of the safeguards that chemists and druggists, as the registered retailers of poisons, insist upon in selling poisons. The middle-column witnesses could hardly be expected to dwell unduly upon that feature. It suits their purpose better to speak about the chemist's profits, and that he is not so enterprising as the ironmonger or general storekeeper, who doubtless give no more thought to the destination of any poison they sell than they would to a keg of nails or a bag of sugar. When the fact is also taken into account that the pharmaceutical witnesses in the first instance appeared comparatively unprepared, and without instructions from the Pharmaceutical Council, it may be realised that things are in a pretty mess—from our point of view. We have every confidence in the diplomacy and force of Mr. Walter Hills, but he should have pharmaceutical support on the committee as well as outside it. One of the purposes of this note is to encourage the growth of the latter in all ranks of pharmacy, especially unofficial ranks. We have stated certain facts as to the anti-pharmaceutical character of the inquiry, and from these (without dwelling upon the pitiful tragedy associated with it) our readers will be able to judge whether or not the Pharmaceutical Council is justified in continuing on its placid way. This is no hysterical utterance. Our views are shared by other pharmacists who are intimate with the Committee's work, and they know that the principle of the Pharmacy Act is not only assailed, but is practically given away.

The Doctor-druggist.

MR. A. L. MUIR, the Glasgow physician and surgeon who gave evidence before the Poisons Committee on Monday, is supposed to have come off with flying colours, and there was a mild wave of excitement in Parliamentary circles that evening respecting him and his views. This is difficult to understand when anyone having a general acquaintance with pharmacy law and the condition of the drug-trade in Scotland reads the digest of Mr. Muir's evidence which is printed on page 426. The evidence practically resolves itself into three parts—first, that the Legislature intended that employers of assistants who sell poisons should be on the ordinary footing of master and servant; second, that a very large proportion of medical practitioners in Scotland keep open shop; third, that the name of the assistant who sells poisons should be on the label, &c. Mr. Muir's first statement is based upon the fact that the Pharmaceutical Society did not until 1889 take proceedings under Section 15 of the Pharmacy Act against the unqualified assistant of a qualified employer. The practice had grown of regarding the employer as the responsible individual in every sense, the phrase in Section 17—"the person on whose behalf the sale is made by any apprentice or servant shall be deemed to be the seller"—lending colour to that view. It broke down completely whenever the courts were asked to say who under Section 15 is the person that sells, and the result has been of immense benefit to the public. Mr. Muir put this matter before the committee in such a way as to indicate that it has been a great hardship to medical men, and he drew a horrifying picture of how such gentlemen are hauled before the General Medical Council and found guilty of infamous conduct because some unqualified assistant or apprentice has, contrary to instructions, sold poisons. No such case has yet occurred. In every instance where medical practitioners have been before the General Medical Council the charge of habitually employing unqualified persons (who had been fined under the Pharmacy Act) has been admitted and the promise made not to do it again. It appears to be considered a hardship that chemists and druggists have not a similar ordeal to go through, but as a matter of fact there is no case yet recorded in which a chemist and druggist has been shown to habitually employ an unqualified person who has been fined for selling poisons. Nor is there much chance of such cases arising, for chemists and druggists attend to their business—the open shop—while medical practitioners, by attending to theirs (visiting patients), neglect their open shops. Here we come in contact with the second part of Mr. Muir's evidence. He said that 100 medical men keep open shops in a certain part of Glasgow, and only six or seven do not, this position being "more or less universal throughout the whole of Scotland." Mr. Muir's figures, as far as they go, are open to correction, and his statement as to the rest of Scotland is wildly inaccurate. Taking the eight largest towns of Scotland—Glasgow, Edinburgh, Dundee, Leith, Aberdeen, Greenock, Paisley, and Perth—we would venture on personal knowledge to say that there are not in them and outside Glasgow, Greenock, and Paisley ten drug-shops kept by doctors. There is no doctor's open shop, as far as we know, in Inverness, Montrose, Arbroath, St. Andrews (or any Fife village or town), Hawick, Galashiels, and doziers of other towns that might be named. The doctor's shop is indigenous to the country south of the Forth and west of Falkirk, and even in remote Highland and country districts the doctor-druggist is a rare inhabitant. These facts show what value may be attached to Mr. Muir's evidence, but he breaks down so badly in the third part that it really sets the standard for the whole. He is of opinion

that each qualified assistant should have a poison-book and set of labels with his own name. This is contrary to Section 17 of the Act, which specifies the conditions to be observed in selling poisons, and ensures that the provision of Section 15 shall not in this case apply by stating that "for the purposes of this section the person on whose behalf any sale is made . . . shall be deemed to be the seller." Nothing could be clearer. In view of the publicity which has been given in Scotland to Mr. Muir's evidence, we have thought it right to turn the reverse of the shield to the light and it is not our fault that the brilliant metallic lustre of the front conceals a pasteboard composition.

THE MARTINDALE MEMORIAL.

We understand that the subscriptions are coming in fairly well. In reply to numerous inquiries from wholesalers and others we may state that the subscriptions are not confined to members of the Pharmaceutical Society. The resolution expressly mentioned the "friends of Mr. Martindale" as being contributors to the memorial, and the opinion was expressed that all connected with pharmacy and the medical profession might participate. Subscriptions should be sent to the Secretary, Mr. George S. Taylor, 17 Bloomsbury Square, London, W.C.

ARSENIC IN CROPS.

Mr. Arthur Angell, public analyst, Southampton, and Mr. A. F. Angell have made a series of experiments to determine whether or not plants are capable of taking up arsenic from soil manured with arsenical phosphates, and the results have been communicated to the Commission which is inquiring into the subject of arsenical poisoning. Several samples of the ordinary superphosphate manures of commerce were obtained and tested, and arsenic was found in every instance, the quantity (reckoned as As_2O_3) being generally about 0·03 per cent. by weight on the whole manure. An ordinary superphosphate of lime was mixed with $\frac{1}{2}$ per cent. of arsenic, this being a proportion of arsenic about seventeen times greater than the quantity usually present in commercial phosphates. Half the manure was applied at time of sowing and half when the young plants were well above ground, and it was determined by experiment that the arsenic when mixed with superphosphates was readily soluble in cold water. The method adopted for the testing and estimation of arsenic was Hehner's modification of Marsh's process, which is, in Messrs. Angell's opinion, the most delicate and reliable process for the determination of minute traces of arsenic, and which yields very close approximations of the actual quantity present in dilutions of one part arsenic in ten millions. Samples of the land on which the crops were grown were taken after the crops were harvested; arsenic was traceable in the mixed samples, and therefore the plants had been subjected to the influence of arsenic all through their life history. The results go to show that the roots of plants are capable of taking up arsenic from soils manured with arsenical phosphates. From the roots the arsenic can rise in the fibro-vascular bundles by a process of suction and capillarity, and may be present in measurable quantities in the early stages of succulent growths. Arsenic was found in rhubarb-petioles and leaf-blades, and in the young leaves or grass of rye and buckwheat, and in the stems and leaves and green pods of broad beans; but in no instance was the faintest trace of arsenic present in the fruit or seed of any plant. It thus appears that in those parts of the plants which are remote from the influences of mere mechanical forces, and where vital or physiological energies predominate, a selective power is brought to bear, and arsenic, even if present, is rejected.

TRADE IN FEBRUARY.

Great Britain and Ireland have little to grumble at as regards the inward and outward trade of February. The total imports were valued at 41,691,591*l.*, or nearly two millions more than in February, 1901, and over four millions more than in February, 1900. Fully half of the month's increase was in raw materials for textile manufacturers. Chemical items showed a decrease of 32,429*l.*, but only 975*l.* less than in February, 1900. Our exports were better by 274,821*l.*, the total being 21,312,455*l.*; but in February, 1900, the trade done was 23,219,849*l.* The export business in chemicals and medicinal preparations increased by 101,218*l.* over February last year, the only higher item being ships. Still, the total (750,227*l.*) is behind that of February, 1900, when 869,278*l.* worth of British-made chemicals, &c., were exported. Pharmaceutical products are responsible for a good deal of last month's increase, medicines being put down at 104,867*l.* (of which 2,995*l.* was for quinine), against 96,773*l.* in February, 1901, and 94,713*l.* in February, 1900. Soda compounds were also better by about 20,000*l.*, and bleaching-powder has improved, but is still behind on the year to the extent of 20,000 cwt. and 7,000*l.* U.S.A. is responsible for that. Chemical manures were better than in February, 1901, the total being 30,337 tons, valued at 232,845*l.*; and copper sulphate is recovering slightly, but the exports this year so far are less than half those of 1900. The quinine account for the month is as follows:—

Imports	Exports
29,116 oz., value 1,280 <i>l.</i>	British, 45,272 oz., value 2,995 <i>l.</i>
	Foreign, 16,200 oz., value 283 <i>l.</i>

It will be seen from this that foreign quinine is imported at a little over 10*l.* an oz., but it is exported at about 4*d.* an oz., while British-made quinine goes into the export-market at almost four times that value!

THE CHEMIST'S BUMPS.

The February issue of the *Popular Phrenologist* contains an article by Mr. J. Millott Severn on "The Pharmaceutical Chemist." Much information is given about the examinations and conditions of pharmacy, but the most interesting portion of the article is that which sets forth the perfect phrenological requirements of the pharmacist. According to Mr. Severn—

Phrenologically, a pharmaceutical chemist should possess a fair-sized head—circumference 22 inches or more. It should be well proportioned, rather high, moderately wide, well developed in the front, and fairly so at the back. Quality of organisation should be superior. He should possess well-developed perceptiveness—Individuality and Locality especially—so that he may be observant of details, have a good memory of the location of things, and be scientific in his tastes. A good degree of Colour will assist him in distinguishing ingredients in mixtures, compounds, &c. The reasoning organs, Causality, Comparison, and Human Nature, should be large, also Ideality, that he may possess good reasoning powers, critical acumen, intuition of mind, analytical, classifying and comparing abilities, a thoughtful, studious disposition, and sense of refinement. He should possess well-developed moral organs, especially Conscientiousness, to give him a just sense of duty and make him feel the seriousness and responsibility of his calling; and he should have well-developed Hope and Benevolence, Firmness and Approbativeness, and fair Self-Esteem, that he may be firm, stable, reliable, hopeful, and sympathetic, yet dignified; and well-marked domestic organs would help to give staidness to his character.

The article is illustrated with a portrait of Mr. H. J. Barker, chemist and druggist, for several years Treasurer of the Brighton Phrenological Society, in whom, the writer asserts, are to be found many of the typical mental qualities required in a pharmacist.

Winter Session.

Royal Institution.

THE Friday evening discourse on March 7 was in French, Professor Henri Becquerel being the lecturer. Sir Wm. Crookes was in the chair, and the audience was exceptionally large. The subject,

RADIO-ACTIVE BODIES,

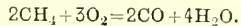
was illustrated by a series of excellent lantern-slides. It was six years ago, said the Professor, since the discovery of Professor Roentgen led him to the study of the radiations of matter. The salts of uranium were investigated owing to their exceptional properties, it being shown that they emit a phosphorescence which is capable of impressing a photographic plate. The lecturer showed some slides of the impressions made by uranium salts on sensitive plates, and produced a small piece of metallic uranium given him by M. Moissan, which had a beautiful steel-blue phosphorescence in the dark. The occurrence of radiant bodies in other substances beside uranium, such as barium and bismuth, led M. and Mme. Curie to endeavour to isolate a general radioactive body from the several sources. They succeeded in extracting from a variety of pitch-blende containing barium a body called radium, and from another kind containing bismuth a body which they named polonium. A pretty experiment was then shown of the property possessed by these bodies of discharging electricity from a gold-leaf electroscope. The electroscope was charged, and radium brought within a few feet, when the leaves at once fell together. Another brilliant experiment showed the strong electrical properties possessed by radium. A coil was set in action, and on placing a piece of radium at one pole the sparking at once stopped. Photographically polonium is more active than radium; and later, speaking of the relative penetrability of radiant bodies through metals, the Professor remarked that probably all bodies would affect the photographic plate in time, but it might take a thousand years in some cases. Platinum stops the radiations reaching the photographic plate. Aluminium is easily penetrated, but with lead it takes a few days before the radiations affect a sensitive surface. Mention was made of Sir Wm. Crookes's work on the spectrum and atomic weight of radium, and to the fact that a solution of radium is radiantly active.

Chemical Society.

LAST week's meeting at Burlington House was held on Thursday evening, when, owing to the absence of the President, the chair was taken by Dr. E. Divers. The first paper was by Dr. Bone and Mr. Wheeler on

THE COMBUSTION OF METHANE.

Dr. BONE communicated the substance of it at tedious length. Many experiments have been made and much controversial matter published on the subject, the point in dispute being as to which of the two elements undergo oxidation first when marsh gas is burned in an insufficient supply of oxygen. The authors find that when mixtures of methane and oxygen in the proportion 2 : 1 are heated at temperatures ranging from 300° to 400° C., both carbon and hydrogen are burned together, the former to the monoxide, the latter to water, a small amount of carbon dioxide being also formed probably as the result of a secondary reaction between the main products of combustion. In brief, the following equation expresses the result :



Dr. F. G. FRANCIS next described some additive compounds obtained by the interaction of

AROMATIC KETONES AND AROMATIC AMINES.

The substances in question exhibit tautomerism of the keto and enol type, but, unlike most of the bodies of this character previously described, can exist in three or even four forms, readily separable from each other by fractional crystallisation, and mutually convertible by the influence of piperidine and sodium ethylate in solvents, from which they have been crystallised.

THE OXIDATION OF TARTARIC ACID

was the subject of the next paper, contributed by Messrs. FENTON and RYFFEL, in continuation of Mr. Fenton's researches on the oxidation of the acid by hydrogen peroxide in presence of ferrous salts. In the present communication the authors showed that chlorine is slowly absorbed by solution of tartaric acid containing iron in the ferrous state, tartaric acid being readily oxidised to the semi-aldehyde of mesoxalic acid. This substance it was found impossible to isolate as such in the crystalline state, but its presence in the reaction mixture was demonstrated by the preparation of the corresponding osazone and dioxime.

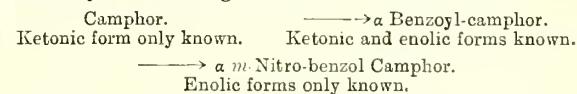
THE OXIDATION OF SUGARS.

Messrs. MORELL and CROFT then described the application of Fenton's reaction to the carbohydrates. These chemists have already shown that when the various sugars are oxidised by hydrogen peroxide in presence of ferrous salts the corresponding osones are formed. In the case of complex sugars such as maltose and sucrose they now find that inversion first occurs, and the dextrose and levulose so formed are oxidised to osones. The latter have been identified by the preparation of phenyl-glucosones from them, and by their oxidation-products with potassium permanganate, glucosone, with the latter reagent, furnishing trihydroxybutyric acid. It is rather remarkable that galactose, one of the hydrolytic products of milk-sugar, is not attacked by hydrogen peroxide even in presence of ferrous salts.

These authors were succeeded by Dr. M. O. FORSTER, who gave the gist of a paper by Miss F. M. G. Micklenthwait and himself on

m-NITRO-BENZOYL CAMPHORS.

An account of Dr. Forster's attempts to prepare the "enolic" tautomer of ordinary camphor has already been given in this journal, and these having failed the authors have prepared and examined this new camphor derivative in order to ascertain whether, like similar derivatives of other tautomeric substances of this class, it shows a tendency to persist in the enolic form. They find that this is the case, and so the tautomerism of camphor and its derivatives may be represented by the following scheme :—



The last paper was contributed by Dr. CHATTAWAY, and dealt at considerable length with the evidence for and against the imino formula of cyanogen compounds. On this subject a résumé of the new experimental work has already been given in the account of Dr. Chattaway's and Mr. Wadmore's recent paper on cyanogen compounds (*C. & D.*, February 8, 1902).

Society of Chemical Industry.

LONDON SECTION.

AT this meeting held in Burlington House on Monday, March 10, Mr. Otto Hehner in the chair, a long paper on "Birmingham Sewage and its Treatment" was read by Mr. F. R. O'SHAUGHNESSY. The method adopted in some of its details was somewhat adversely criticised by Dr. Rideal, who thought that if chemical and bacterial experts were more employed in such cases so much money would not be required by engineers. Mr. E. G. CLAYTON, F.I.C., F.C.S., then read an interesting paper on

THE TECHNICAL EXAMINATION OF GLUE.

He commenced by saying that his investigations had been mainly directed to certain specific points, so that the absence of any reference to certain well-known tests must not be taken to indicate that he did not appreciate their value. Dealing first with obvious features, he said colour should be attended to, though too much attention is sometimes paid to it; other things being equal, a pale-coloured sample is to be preferred, but sometimes a darker sample is found to be superior to a lighter. Lustre and translucency should also be noted; air-bubbles should be few, or absent, odour

should be absent or inoffensive, and glue should not quickly deteriorate on exposure to the air. With regard to chemical decomposition, the conclusions derived from analysis are generally less definite than those based on physical tests. The proportion of water should be between $10\frac{1}{2}$ and $18\frac{1}{2}$ per cent.; mineral matter is variable, and by itself is no criterion of quality, but should not exceed $3\frac{1}{2}$ per cent. The proportion of soluble to insoluble, and the presence or absence of chlorides or phosphates, sometimes give an indication of the source or method of manufacture. If present in more than a minute amount they are held to indicate bone-glue rather than hide-glue. It should be tested for sulphites and for preservatives, such as zinc or other metallic salts. Perhaps the best single comparative test is Stelling's, which depends on the estimation of non-gelatinous matter by precipitation by alcohol, filtering and evaporating fractionally, and weighing the dry residue. By this test he found two samples, which were also of low quality, as tested in other ways, had 9.9 and 8.4 per cent. respectively of non-gelatinous components, whilst other samples yielded from 1 up to 4 per cent. The matter insoluble in boiling water was in one case $\frac{1}{2}$ per cent., in the others none; mineral matter varied from 1.3 to 7.25 per cent. The ash was infusible in all cases but one. The physical tests were next dealt with, and comprise the amount of water absorbed by immersion of the glue in water; the hydrometric test, as shown by the amount of moisture absorbed by exposure to moist air in a closed vessel; the rate of drying of glue-jelly, and the influence of temperature thereon; the viscosity, as determined by Fell's test; the setting and hardening of glue solutions. In all these tests it is of the utmost importance that the exact conditions as to temperature, &c., should be the same in dealing with each sample, otherwise any comparison between them is impossible. In the case of the hydrometric test the size of the containing vessel had an important influence on the quantity of moisture absorbed.

A short discussion ensued, in which several speakers remarked on the absence of any test for adhesiveness.

In his reply, Mr. CLAYTON pointed out that he had professed to give a complete examination of the subject, and, as a matter of fact, the question of adhesiveness was not very important in connection with the samples submitted to him.

MANCHESTER SECTION.

A MEETING of this Section was held on March 7, Dr. Bailey in the chair. Dr. GERLAND reported that he was continuing his experiments as to the best methods of estimating arsenic in beer. Mr. CRAVEN called attention to the Corporation Bill to be placed before Parliament, in which there is a clause to prevent chemical-manufacturers from turning any effluent except pure water into the sewers. The matter is to be discussed at a future meeting.

YORKSHIRE SECTION.

AT a meeting held at Leeds on February 24, Messrs. F. NORTH and W. C. LEE gave some

ANALYTICAL NOTES.

The first was a paper on estimation of alkaline hydrate or bicarbonate in the presence of mono-carbonate. The authors said it had been stated that in Thompson's method—titrating half the carbonate and the whole of the hydrate with standard acid, using phenol-phthalein as indicator, and then titrating the remaining half of the carbonate with acid, using methyl orange as indicator—a constant error is introduced. If the method is conducted, however, with carefully purified materials, correct results could be obtained. When titrating the tip of the burette must be well immersed in the solution to be titrated. The authors make the standard solution of sodium carbonate by washing sodium bicarbonate free from chloride, igniting until constant in weight, and then dissolving a known quantity in a certain volume of water so as to be exactly normal. The standard sodium hydrate used is prepared by dissolving metallic sodium in distilled water and diluting until exactly decinormal.

The following method was recommended by the authors for the analysis of bicarbonate in the presence of mono-carbonate:—Five grains of the sample is dissolved in dis-

tilled water made up to 250 c.c. and 50 e.c., after adding phenol-phthalein, titrated with N/1 acid, with the point of the burette immersed in the solution; then add one or two drops of methyl orange, and continue the titration. In the analysis of a "soda ash" the authors pointed out that should the amount of N/1 acid be greater with phenolphthalein than with methyl orange, then sodium hydrate is present, but if greater with methyl orange, then bicarbonate is present, and the calculations for carbonate and hydrate or carbonate and bicarbonate are made in the usual way.

School of Pharmacy Students' Association.

UNDER the auspices of the above Association a social evening was held at 17 Bloomsbury Square, W.C., on March 5. An audience consisting of past and present students and visitors assembled in the Lecture Theatre to hear Professor COLLIE's lecture on the "Lofoten Islands." Professor J. Reynolds Green, President of the Association, occupied the chair. For more than an hour the Professor held his audience with a delightful account of the tour he made with a small party round the islands last summer, his remarks being illustrated by a number of splendid lantern-slides from photographs taken by himself. At the conclusion the CHAIRMAN, in a few remarks, said he did not know whom he ought to congratulate the more, Dr. Collie on having spent such a pleasant vacation, or the audience on being made so familiar with the Lofoten Islands and their lovely scenery without the dangers of mountaineering or the discomforts of rainstorms which last three days. Mr. WALTER HILLS then rose to propose a hearty vote of thanks to Professor Collie, saying how thoroughly he had enjoyed the lecture, and evidently voicing the opinion of everyone present; whilst, on behalf of the students, Mr. R. A. ROBINSON, jun., seconded the resolution, observing that no evening in the session had been so looked forward to as the present one. The vote was carried unanimously, and a most enjoyable meeting was shortly afterwards brought to a close.

Young Chemists' Association.

A MEETING of this Association was held at Newcastle on March 5, Mr. Barry Noble in the chair. Mr. DUDDERIDGE read a paper on "The Pharmacist as a Professional Man." He said that pharmacy is undoubtedly a profession, but if the chemist is unable to obtain a living at it, it is no disgrace to add side-lines as long as they are in the scientific direction. It is possible, Mr. Dudderidge said, to cultivate a dispensing business to a certain extent by giving attention to details. General untidiness is greatly responsible for failures in the examination-room, and factory-made preparations are neither cheaper nor better than home-made ones urged by the speaker. The Major examination, he continued, is often decried from two opposite standpoints: first, it is said to be of no use in an ordinary business; the second, it is not so scientific as the B.Sc. examination. He admitted that the value of the examination is not always evident in everyday business, but there are cases when a Major man could make a little more out of his more extended knowledge than a Minor man. Then, again, although the Major is not a B.Sc. degree, it requires a knowledge in subjects such as *materia medica*, which are far more useful to the ordinary pharmacist than the B.Sc. subjects are. Its requirements in physics would do well to prepare the way for a diploma in optics—a side-line both professional and profitable to the pharmacist.

Midland Pharmaceutical Association.

A MEETING was held at Birmingham University on March 6, under the presidency of Mr. John BARCLAY, who read the first paper on the standardisation of the official

COMPOUND TINCTURE OF BENZOIN.

By John Barelay, B.Sc. (Lond.), F.C.S., and E. W. Mann.

After reviewing the published statements dealing with the constitution of the tincture ingredients, the authors stated that these ingredients are used in the proportions of benzoin 10, storax 7.5, balsam tolu 2.5, and aloes 1.83 grammes per 100 e.c., or a total of 21.83 grammes. As all

the ingredients, except the aloes, are required by the Pharmacopœia to be "almost entirely soluble in alcohol," it is obvious that 20 per cent. by volume of soluble balsamic ingredients are present, and, after allowing for a possible 10 per cent. of insolubility for each drug, there remains 18 per cent. of dissolved matter below which, in their opinion, the percentage of extractive should not fall. In all cases allowance for insoluble matter in benzoin would, as Dr. Attfield had stated, have to be made where necessary, such allowance in the case of Siam benzoin being considerably less than in that of the Sumatra product. The high price of the Siam drug would, however, render its use as inadvisable as it is unnecessary.

In order to ascertain to what extent commercial samples of the tincture correspond with the 18-per-cent. standard, the authors had examined seven, with the following results:—

	1	2	3	4	5	6	7
Sp. gr.	0·8885	0·897	0·8995	0·897	0·896	0·9045	0·905
Solid ...	14·99	17·62	17·22	15·85	17·47	18·03	19·25

Nos. 2, 3, 5 and 6 were properly prepared, Nos. 1 and 4 were weak, and No. 7 abnormally strong, and was peculiar in other respects. The figures show that the 18-per-cent. standard is just. "Solid" figures are grammes in 100 c.c.

The second part of the paper dealt with a suggested standard independent of percentage of extractive matter. A preparation which owes its medicinal value to compounds capable of chemical estimation, should be required to contain some definite percentage of these constituents approximately estimated. The authors, therefore, experimented with a view of obtaining a simple process for estimating free and combined benzoic and cinnamic acids. Their experiments were first made with the tincture ingredients, and the process followed in the case of benzoin may be taken as an example of what was done in the other cases:—

From 1-2 grammes of the drug was treated with 25 c.c. of chloroform, the solution filtered, the filter washed with chloroform, and 50 c.c. of distilled water added to the solution. The liquid so obtained was titrated with decinormal soda solution, phenol-phthalein being used as indicator, and the results calculated into benzoic acid (1 c.c. N/10 NaOH = 0·0121 C₆H₅COOH). To estimate the combined acid the chloroformic solution from the above-mentioned titration was separated from the water (containing benzoates and cinnamates of soda in solution) and the chloroform removed by distillation over the water-bath. To the residue 50 c.c. of 2½ per cent. soda solution was added, and the mixture boiled for an hour under a reflux condenser. It was then transferred to a separator, and shaken with 10 c.c. of chloroform, excess of dilute hydrochloric acid was then added, and the mixture agitated with 5 c.c. of chloroform four times. The chloroformic solution of the acids was next washed with several successive portions of water until the washings ceased to affect litmus-paper. To the washed chloroformic solution now remaining, 50 c.c. of water was added, and titration conducted as before, the figure obtained being taken to represent combined acids, and being calculated as before into terms of benzoic acid. In dealing with the tincture, 10 c.c. was taken and evaporated at a low temperature to a syrupy consistency, 25 c.c. of chloroform was added to the residue, the chloroformic solution filtered, the filter washed, and after the addition of 50 c.c. of water titration was proceeded with as above. The estimation of combined acid in the tincture residue was performed exactly as described.

Saponification of the esters was at first performed with alcoholic soda, but as aqueous alkali gave exactly the same results it was adopted. In dealing with benzoin and tolu, an estimation of alcohol-soluble matter was first made, and the results for free and combined acids calculated to a basis of 90-per-cent. solubility. The following table shows the mean results (grammes per 100 c.c.) obtained from an examination of several specimens of each drug:—

—	Free Acid	Combined Acid
Benzoin (Siam) ...	5·29	29·51
Benzoin (Sumatra) ...	11·58	16·86
Storax ...	5·29	18·82
Tolu balsam ...	18·20	22·47

The figures obtained accorded fairly well with those

generally accepted as giving the proportions of balsamic acid present in the drugs. A calculation was next made to ascertain the theoretical percentage of free and combined acids yielded to the tincture by drugs having the mean acid values given in the table. The results obtained were for free acid in tincture (theoretical), 1·96 grammes per 100 c.c.; for combined acid tincture (theoretical), 3·70 grammes per 100 c.c.

The next table shows the results (grammes per 100 c.c.) of the assay for balsamic acids of the seven samples of commercial tinctures:—

—	1	2	3	4	5	6	7
Free acid ...	1·69	2·00	1·88	1·96	1·91	2·09	2·38
Combined acid	2·71	3·34	3·51	2·37	3·25	3·20	2·58

The mean percentages of all samples were, for free acid 1·99, for combined acid 3·7, but as tinctures Nos. 1 and 4 have already been shown to be weak in extractive, and the proportions of free and combined acids in No. 7 were peculiar, these three samples were best left out of consideration, and the mean percentages for the remaining four tinctures noted. These were

Mean percentage (grammes per 100 c.c.) of free acid in tinctures, 1·97.

Mean percentage (grammes per 100 c.c.) combined acid in tinctures, 3·32.

The calculated and actual percentages of free acid are almost identical, whilst the calculated percentage of combined acid is about 10 per cent. higher than the actual. The authors concluded by suggesting as a standard for the tincture that it should, when assayed by their process, "yield not less than about 5 per cent. of balsamic acids calculated as benzoic, out of which neither more nor less than about two-fifths should be present in an uncombined condition."

DISCUSSION.

Mr. A. W. GERRARD pointed out that standardisation of compound tincture of benzoin was eminently a local subject, Mr. Barclay and others having made it a particular study. He had noticed during the whole of his practical experience that storax varies considerably in consistency and odour, and he has detected a distinct smell of methyl. Of course he would not say that methylated spirit had been used in its preparation, because that was scarcely allowable. He agreed that the minimum standard of total solid matter should be 18 per cent., and he had been sorry to find that the standard had often been below that. He thought chemists who had tincture on their shelves below this standard were not very wise. He was rather surprised to find the combined acids rather low, for he found that in Sumatra benzoin the free acid was rather high, and consequently was a better preparation to make in using this tincture than the Siam product. The tincture owed its value largely to its antiseptic qualities, which would be enhanced by a larger percentage of free acid.

Mr. F. H. ALCOCK said he was inclined to think that this idea of percentage had been misunderstood. Was it possible that the Somers-t House authorities had based their's on weight in weight? Mr. Alcock proceeded to speak of the process of assay now suggested, then stated that methylated ether is far more efficacious than spirit for purifying storax. There was a great temptation to use methylated spirit, and if evaporation was conducted properly there was very little odour of methyl left behind. But he did not think it was legitimate to use it for such a purpose, and consequently it could not be recommended. The authors had made no mention of the presence of water in storax. It was there to the extent, say, of 8 per cent., and it seemed possible that the solid matter at present in the tincture would thereby be reduced. He was inclined to think that this question of compound tincture of benzoin had settled itself somewhat in Birmingham, because of the very flagrant mistakes which had been made from time to time in the making of the article. Some samples he had examined had evidently been made by an amateur. He had found glycerin in them and a low percentage of solids, and the excuse offered was that two kinds

of tincture was kept—one used in veterinary pharmacy, the other in ordinary pharmacy. That, he was inclined to think, was the reason the authorities were so strict in the matter of tincture of benzoin.

Mr. J. POOLE suggested that 17 per cent. of solid matter would be a safe figure to depend upon in the samples.

Mr. GERRARD thought a useful work was being done in trying to fix a fair standard for total acids. They knew how easy it was after using tolu in making syrup to apply the residue for making the tincture.

Mr. ALCOCK mentioned that the temperature at which the tinctures are evaporated is important, as if too high free acids are volatilised.

Mr. PERRY also emphasised this point, and agreed as to the importance of trying to fix a standard for the acids.

Mr. BARCLAY, in the course of his reply, referred first to Mr. Gerrard's allusion to the odour of methylated spirit being left in storax, and suggested that pharmacists should buy crude storax, and use an equivalent quantity of this to standardise the final product. By standardising it himself he made certain of the absolute percentage of storax present, and so avoided any odour of methyl. If he relied on the wholesaler to purify the storax, there was always the possibility of methylated spirit being used. It was a great temptation to a pharmacist to use syrup of tolu residues in making tincture of benzoin. They wanted to prevent this, and it was for that reason, among others, that the paper was written. Mr. Alcock, he continued, seemed a bit unwilling to allow an 18 per-cent. standard for this tincture, and he mentioned Somerset House as being an authority. Mr. Barclay did not think Somerset House was any authority at all. They had the B.P. and they had their own information on these matters. Somerset House took very curious stands. If Somerset House thought compound tincture of benzoin should contain 14 per cent. of total solids, whether by volume or weight, then Somerset House was absolutely wrong. After touching on other points in the discussion, Mr. Barclay reminded Mr. Poole that the figures had to be taken in conjunction with the fact that at least 20 per cent. solids could be obtained by the official processes. If the substances were quite pure, and if they allowed 10 per cent. for the insoluble matter, then they had a theoretical yield which was fairly borne out by this tincture. These figures, from the examination of commercial samples, show evidence that the majority of manufacturers aimed at an 18 per-cent. standard, and it would be a retrograde step to attempt to lower the standard. With reference to Siam benzoin, he mentioned that it was about three times the price of Sumatra benzoin, and if sufficient of the latter were used to allow for insoluble matter, then a better tincture would result. He gave this as his opinion, because of the larger percentage of free balsamic acids contained in the Sumatra product, and so far as he could judge, a preparation containing plenty of free acid would be superior for medicinal purposes to one containing the acids in their combined condition. The next paper was on

THE ESTIMATION OF FAT IN MILK.

By Geo. E. Perry.

This dealt with A. A. Bonnem's method (*Jour. Chem. Soc.*, 1899), which is as follows:—

One hundred cubic centimetres of the milk are put into a 100 c.c. cylindrical glass, and mixed with 15 c.c. of aqueous caustic potash (20 grammes per 100 c.c.). After shaking for a moment 25 c.c. of ether are added, and the whole thoroughly shaken for five minutes, the glass being held in the warm hand. The glass is placed in cold water, the stopper removed for a moment, 2 grammes of tragacanth are added, and the whole is again thoroughly shaken. The tragacanth absorbs all the water and forms a clot, whilst the ether becomes quite clear. Ten cubic centimetres of the ethereal solution are now pipetted off and evaporated in a weighed dish.

Mr. Perry tried this method against Adams's, and compared the results thus:—

Adams's Process. Tragacanth Process.

Per Cent.	Per Cent.
(1) 2·72	(a) 2·61 (b) 2·67
(2) 1·08	(a) 0·930 (b) 0·925

Per Cent.	Per Cent.
(3) 2·08	(a) 2·02 (b) 1·99
(4) 3·8	(a) 3·78 (b) 3·77
(5) 2·25	(a) 2·21 (b) 2·30
(6) 2·74	(a) 2·71 (b) 2·73
(7) 5·5	(a) 5·57 (b) 5·51

In the last experiment some extra cream was purposely added to the milk. The process is easily and expeditiously carried out. The operator should take care that the stopper is not removed from the bottle before the ethereal solution is thoroughly cooled, or discrepancies from this cause may arise.

Mr. BARCLAY and Mr. ALCOCK spoke briefly on the paper, and Mr. PERRY proceeded to read another on

SWEET SPIRIT OF NITRE.

This dealt solely with keeping the spirit in an inverted bottle. Five oz. of sp. aether. nit. (5 c.c. yielding 34·5 c.c. of gas) was placed in each of two 6-oz. stoppered bottles, one bottle was capped with sheet-rubber and inverted, and the other placed upright on the shelf. Portions were taken daily from each during twenty-six days, the quantity at the end being less than 1 fl.-oz. The results of testing were as follows:—

5 c.c.	Upright Bottle	Inverted Bottle
First tested ...	=34·5 c.c.	34·5 c.c.
18th day ...	=28·5 c.c.	31·5 c.c.
26th day ...	=24·0 c.c.	27·0 c.c.

Thus an inverted bottle has some advantage over an upright one, but the contents should not be allowed to run too low.

In the course of the discussion Mr. BARCLAY said oxidation was the cause of the falling off.

Mr. SOUTHALL inquired whether experiments had been made to determine what influence light had upon the sample, and Mr. ALCOCK asked if the bottles were amber coloured, but white-flint bottles were used by Mr. Perry, and light was not excluded. [Compare *C. & D.*, May 25, 1901, page 833, and July 20, page 108, as well as August 3, page 241.]

Aberdeen Pharmaceutical Association.

THE sixty-fourth annual meeting of this Association was held in the Board-room, Gordon's College, on Wednesday evening, March 5, Mr. A. Craig (President) in the chair.

The annual

REPORTS

were submitted and adopted. The Secretary's report mentioned that the membership—fifty-four—was the same as the previous year. The drug-exchange established during the year had not been taken advantage of to any great extent, and members were requested to send in lists of any surplus stocks to Mr. W. F. Hay, who has charge of the register. The Treasurer's report showed a substantial balance to the good. The Education Committee's report referred to the satisfactory state of the Evening School of Pharmacy, which was thought to be due in a great measure to the two scholarships offered by the Association of a free term to the Day School of Pharmacy, as also to the interesting lectures of the teacher, Mr. G. Simpson. The Association then took up consideration of the

FEDERATION QUESTIONS.

The answers were to the effect that the Association is (a) opposed to a compulsory curriculum under present conditions; (b) in favour of dividing the Minor examination into two or more parts; (c) as to the apprentice difficulty: the relationship between master and pupil should be that of teacher and scholar, whether the pupil pay a premium or not. On this the Association add the following remarks:—

In an ordinary pharmacy it is impossible for a master to give his pupil all the necessary training to pass the Qualifying

examination, and all that can be expected of him in the pharmacy is to train his pupil to orderly and methodical habits, to give him an opportunity of becoming practically conversant with the processes employed in making ordinary pharmaceutical preparations and a thorough training in dispensing. Having done these things to the best of his ability, it is his duty to see that wherever practicable he should have an opportunity of attending classes where he may attain the scientific and technical instruction necessary to pass the Qualifying examination. This may be most usefully done by chemists combining in getting such classes established, and personally taking an interest in them and their success. Until the master has done this, we do not think he has done his duty by his pupil. Many persons are deterred from thinking of entering the ranks of pharmacy when they consider the very long hours the shops are kept open, consequently the limited time for study to meet the requirements of the examiners, which are gradually being raised. To the majority of those likely to enter the business the high examination fee which must be met at the end of the apprenticeship, is no light matter. Such considerations, coupled with the poor financial prospects visible after having gone through apprenticeship, have much to do with the paucity of applicants, and we may look for the scarcity to continue until there is some combined action among pharmacists to bring about a better and healthier condition than presently exists, which are felt to be a grievous burden not only by the pupils, but by the masters as well.

Mr. JAMES PATERSON took the opportunity to reply to the critics of his scheme, pointing out to begin with that the questions in the Federation circular went beyond what was in his paper. He then took up and replied to the objections urged against his scheme of provincial schools of pharmacy and State-aid for them, taking the Glasgow objections as typical. The sum and substance of Mr. Paterson's reply was that at present the professions and some trades (*e.g.*, plumb) get Government aid through Universities and technical colleges in the acquirement of the knowledge necessary to carry on their business, and pharmacy should get the same.

THE OFFICE-BEARERS

appointed for 1902-3 were:—President, Mr. Andrew Craig Vice-President, Mr. Wm. Giles; Treasurer, Mr. James Paterson; and Secretary, Mr. John Cruickshank, 42 George Street, Aberdeen.

Chemists' Assistants' Association.

AT the meeting held at the Association's Rooms on March 6 presided over by Mr. J. Wiciffe Peck, a lecture was delivered by Professor J. NORMAN COLLIE on

PHOSPHORESCENCE.

The lecturer illustrated his subject with several very beautiful examples of phosphorescence. Phosphorescence is light without heat, the best-known example being, perhaps, the luminous acid-vapours due to the slow oxidation of phosphorus, from which the term phosphorescence is derived. Many organic substances are phosphorescent, also certain plants—the flower of the calendula which, after sundown, gives out a faint light in the dusk. It is very brilliantly seen in dead wood, due to oxidation as it decomposes. The firefly and glow-worm are also phosphorescent, as also many animal substances and animalculæ which occasion the phosphorescence seen on the surface of the sea. Some substances become phosphorescent when slightly heated, and others when cooled down. A feather, when plunged into liquid air, becomes luminous, and its outline can be clearly seen in a darkened room.

Professor Collie then referred to the phosphorescence of such substances as barium sulphide and strontium sulphide, and proceeded to speak of what has been done in the subject through the utilisation of Röntgen rays and Hertzian rays, which set up in solids and gases subtle forms of energy which give out light and phosphorescence. He then demonstrated the effect of electric-vibrations on a tube of nitrogen. Next he placed in a large glass beaker of water acidulated with sulphuric acid a vacuum-bulb connected to an induction-coil. A minute quantity of quinine sulphate was added to the water and the electric-current switched on. As it dissolved the quinine became iridescent and diffused itself through the solvent. The quantity was so minute that, said the lecturer, the phosphorescence is probably due to quinine in a gaseous state.

Experiments were also made with various limestones. Lime, he said, is supposed to be always represented by the formula CaO, but the action of electricity has shown that there must be many kinds of lime having different physical structures. A limestone picked up in Belfast gave a deep orange phosphorescence; another a brilliant blue and it also imparted to a piece of uranium glass, held some distance away, a green phosphorescence. The introduction of impurities such as bismuth and copper into the lime produce still more striking colours. Shells and coral converted into lime by calcination also gave variegated colours of a beautiful hue. Silicate of lithium, a barium salt, tungstate of calcium, and oxide of alumina were subjected to electrical energy, and produced some remarkable colours. The lecturer pointed out that nothing in nature equals in depth and purity of colour the hues disclosed by the experiments. Professor Collie closed his lecture with a reference to the commercial applications of phosphorescence, stating in the course of his remarks that the light produced by incandescent mantles is due partly to phosphorescence, and the problem is to get a substance which gives the best light. Perhaps the light of the future may be generated at some central station on the Marconi system, and all that would be necessary to get light would be to hang up a suitable substance to attract the light rays; or a room might be covered with a paint which became luminous in the same way.

A cordial vote of thanks was passed to Professor Collie.

Dewsbury Chemists' Association.

THE annual meeting was held on Monday evening, March 10, at the Church House, Dewsbury, Mr. W. Stead, of Heckmondwike, in the chair.

ANNUAL REPORTS.

In his report, the SECRETARY (Mr. G. Walker) noted that two of the members had joined the Wakefield Association, and regretted that the attendances had not been kept up. Reference was also made to the recent attempt to amalgamate the West Riding Associations, and to a legacy from the late Mr. E. H. Matternon of bound volumes of trade-journals.

The PRESIDENT congratulated the Secretary on his report, and, alluding to the proposed West Riding Federation of Associations, said that neither himself as President, nor the Association, had been treated in this matter with the courtesy to which they were entitled. The reply from Sheffield was remarkable and significant, bearing in mind the Association from which it came. The only logical conclusion he was able to draw from it, was that local organisation as an abstract idea is all right and very proper to talk about and to read about, but it is possible to have too much of it, especially should it assume a concrete form, and not always be in complete accord with a certain select coterie having its habitat at 17 Bloomsbury Square.

Mr. BROADHEAD supported the President's references to the Secretary.

Mr. PICKARD spoke in similar strain, and expressed the hope that the federation proposal was not dead. If it had been propounded by an association of longer standing, such as Leeds or Sheffield, it would have been supported by all without demur.

The report was unanimously adopted.

Mr. GLEDHILL, the Treasurer, reported a balance in hand of 21. 2s. 5½d.

THE ELECTION OF OFFICERS

was by ballot, and resulted as follows: President, Mr. R. Gladhill; Vice-Presidents, Mr. W. Stead and Mr. Joseph Rhodes; Secretary, Mr. G. Walker; and Treasurer, Mr. Gutteridge. Mr. STEAD pressed to be relieved from office, and Mr. Broadhead was elected Vice-President in his place. Mr. GLEDHILL returned thanks for his election.

At the conclusion of the business on the agenda, Mr. BROADHEAD re-introduced

THE FEDERATION PROPOSAL.

He said that from Mr. Stead had emanated one of the most brilliant ideas ever put forward for the benefit of Yorkshire pharmacy. The scheme, if carried out, would have been of boundless good, and would have helped to consolidate them in their work, and as an educational medium. He expected that Bradford would have supported the proposal,

and had noticed that one of the leading members of that Association wrote in a trade-paper criticising the Pharmaceutical Council for not fostering local organisation as it ought to do. Could inconsistency be carried further? He referred to the objections urged against federation, and moved

That the Dawsbury and District Chemists' Association not sharing that desire for the disintegration of pharmacy which permeates all ranks of our trade, calling or profession, declines to further subscribe to the so called National Federation of Local Associations, the only use for which seems to be that its misleading title may be quoted as a bar to progressive organisation.

The 10s. 6d. they paid was a charitable 10s. 6d. It went somewhere, and they did not know what they got for it. He was not going to leave the local-federation idea alone until he had worried every Association that had refused to answer, or had given such contemptible answers, which they could not have given in anything but a conglomeration of miserable, narrow-minded pessifogginess which went under the name of pharmacy. (Laughter.)

Mr. S. N. PICKARD seconded the resolution, which was unanimously adopted.

Finally Mr. Stead was thanked for his services as President.

Oxford Chemists' Association.

THE annual meeting was held on Tuesday, March 11, at the Golden Cross Hotel, Mr. C. Clayton (President) in the chair. The HON. SECRETARY presented the annual report and balance-sheet, showing a balance in hand of 7l. 18s. 11d., the adoption of which was moved by Mr. PALMER, seconded by Mr. SQUIRE, and carried unanimously. The following members were elected officers for the ensuing year:—President, Mr. J. A. R. Burbank; Vice-Presidents, Mr. C. Clayton and Mr. Jessop; Hon. Secretary and Treasurer, Mr. John Dolbear; Committee, Messrs. Squire, Druse, Prior and Mathews.

Manchester Pharmaceutical Association.

A MEETING was announced to be held at the Victoria Hotel, on Wednesday evening to hear a paper on testing sights, by the Secretary. Our representative waited twenty minutes and nobody else put in an appearance.

Halifax Chemists' Association.

A MEETING was held at the Old Cock Hotel on March 11, Mr. Gibson Dixon in the chair. Mr. C. FIELDING read a paper on "A Pharmacist's Continental Holiday," which detailed a tour through Holland, Belgium, and Germany. He showed photographs of the various places of interest seen en route, and gave an account of a visit to Messrs. Bayer's works at Elberfeld, where the visitors were shown round by the inventor of somatose. It was noted that certain machines used there for dehydrating wool were made by a Yorkshire firm. A vote of thanks was accorded to Mr. Fielding. Mr. J. Russell (Wilkinson's) and Mr. Davies (Evans's) were elected members of the Association.

Sheffield Pharmaceutical and Chemical Society.

A MEETING was held on Wednesday evening, March 13, for the reading of papers by students on "Starch" and on "Suitable Hobbies for Young Pharmacists," two prizes for the best essays having been offered by Mr. Pater and Mr. C. F. Carr. Mr. John Austin presided, and seven members were present besides the essayists. The competitors were Messrs. W. M. Cooper, N. Goodyear, R. Tildesley, and A. A. Walls. The awards will be made known later.

London Chemists' Association.

A MEETING of the General Purposes Committee of this Association was held on Wednesday, March 12, at Anderton's Hotel, Fleet Street. Messrs. Bunker, Burton, Bustard, Campbell, A. Cooper, Cracknell, S. Dawson, Goodall, Gulliver, Glynn-Jones, R. H. Jones, Pentney, Philp, Pickering, Pond, Truman,

and Willson were present. Mr. Albert Cooper (South Kensington) was elected Chairman of the Committee, Mr. Glynn-Jones Vice-Chairman, Mr. Pond Treasurer, and Mr. R. H. Jones Hon. Secretary.

A Sub-Committee was appointed to take steps to form a local committee in South London.

Huddersfield Chemists' Association.

A MEETING was held on March 11, the President in the chair. After routine business there was a discussion on several subjects touched upon in the speeches at the recent dinner. The methods adopted in the advertising of some patent medicines were discussed, and a strong feeling existed that united action should be taken to repudiate the charges against the honesty of retailers which some advertisements imply. A proposal was made to wind up the session with a "smoker." A vote of condolence was passed and ordered to be sent to the widow and family of the late William Martindale.

Festivities.

Now and then your men of wit
Will condescend to take a bit.—*Swift*.

At a postal charge of 10d. we had the pleasure of receiving on Monday particulars regarding a dinner given on the eve of his 80th birthday to Dr. Enno Sander by his pharmaceutical friends at Faust's Cabin. There is nothing on the missive to show where Faust's Cabin is or who Dr. Enno Sander is, but we judge from the names that appear on the programme that St. Louis, Mis., was the scene of the revels. At any rate, the menu commenced with the lines which head this paragraph, and the first thing that followed was blue points—"left naked to mine enemies"; there was also "planked shad" and other items which one has to travel to U.S.A. to get. Also there was a toastmaster—"Albert E. Ebert, President and Historian Chicago Druggists' Association"—and the first speech was by Professor H. M. Whelpley, President of the American Pharmaceutical Association, who, amongst other things, said:—

Dr. Enno Sander was one of the first residents of Missouri to join the A. Ph. A., was the very first Missourian to be elected President, and is to day the oldest Missouri member both in point of age and in the service of the national society. The association has now honoured forty-nine members with the presidency; of this number four were from the city of St. Louis, and three of them, accompanied by a fellow ex-president from Illinois are present at this little gathering to-night. Mr. Toastmaster, I might continue, "like the river which flows on for ever," and not exhaust the Trojan attributes and the worthy records of him who links the present with the past. I introduce our guest to you, and, through you, to the members of this party. He is a man so popular with the fair sex that his kind nature never permitted him to break the hearts of many ladies for the sake of making a single one glad.

From which it will be seen that they do these things quite nicely out there. This was on "February 26, 6 P.M., 1902." Besides Swift and Shakespeare, the shades who did honour to the grand old man of St. Louis were Beaumont & Fletcher, Pope, T. B. Aldrich, Douglas Jerrold, Browning, Milton, Akenside, South, Wordsworth, Rowe, La Rochefoucauld, and Joanna Baillie. Had Rowland Hill been there we might have been 10d. in pocket.

DISPENSERS SMOKE.

The Public and Poor Law Dispensers' Association held its second annual smoking-concert at Stone's Restaurant, Ludgate Circus, E.C., on March 12. Mr. A. C. Wootton presided, and upon his leaving, before the close of the programme, Mr. Chas. Spencer took his place. There was a large attendance of members and friends. An excellent entertainment was provided, in which Messrs. A. Kelly, R. Dorrell, F. E. Stoddard, P. Capps, H. Bourne, F. Vernon, W. Lamberth, C. J. New, H. V. Lewis, and G. Crawford participated. Mr. Geo. Flaxman also sang exceedingly well. Mr. Duff (the President), in proposing a vote of thanks to the Chairman, said Mr. Wootton, as a member of the Council of the Pharmaceutical Society, had shown himself particularly interested

in the well-being of public dispensers. Mr. Wootton, who was accorded musical honours, briefly replied. The evening terminated with a vote of thanks to Mr. Spencer, who organised the concert.

C.M.A.S. DINNER.

The first annual dinner of the Chemists' Managers' and Assistants' Society of Great Britain took place at the Horseshoe Hotel, Totteham Court Road, W., on March 12. Mr. C. E. Pickering was in the chair. There were twenty-five present, and the dinner was not attacked until an hour after the advertised time, saying which it was an enjoyable function. After dinner a series of toasts were given, interspersed with musical items. Mr. Cullwick proposed "The Pharmaceutical Society," and said that, although the Society had had many opportunities of righting the company wrong, they had been neglected. He hoped they would, however, henceforth "clean the slate" and write thereon the words "co-operation and efficiency." Mr. Webb replied. Mr. Fitzgerald proposed the toast of "The Chemists' Managers' and Assistants' Society," and Mr. Pickering (the President) replying, explained the objects and benefits of the Society, and said that Lord Avebury was that evening engaged on Empire work at Oxford, or he would have been present at the dinner. Other toasts followed. The musical programme was supplied by Mrs. Cullwick, Miss Aitken, Miss Harper, Miss Druce, and Messrs. J. Jones, Mawdesley, and Fuller.

Royal Exchange Colonial Exhibition.

THIS Exhibition, which consists of colonial products was opened on March 10 by the Lord Mayor and Sheriffs of London. As previously explained, the exhibits are the same that were shown at the Glasgow Exhibition last year, the idea of showing them in London being to bring the various colonial products to the direct notice of the merchants and buyers of the City. The exhibits are arranged in the ambulatory, the goods of each colony being placed together. There is not much of pharmaceutical interest, however, in the exhibition. The Canadian section contains some good exhibits of mica (dark coloured), also talc and kieselguhr. We noticed also tins of condensed milk, "Ovo" (dried eggs), and "Radnor," a mineral water. The statue of Queen Elizabeth, in the corner, has its stony gaze fixed on a fine exhibit of colonial fruits. In the Bulawayo section some samples of rubber are shown, and in a case of curios there is a ticket bearing the inscription, "Medicine-horn," but it is not apparent to which article it refers. Messrs. Johnson & Johnson have a show of chloride of gold, nitrate of silver, and precious metals, and we should mention that masses of gold (mostly made of wood) figure very largely throughout the exhibition. Admission to the Exhibition is free, but it is closed at certain times in the day, so as not to interfere with the hours of "Change."

Business Changes.

THE TIMOTHY WHITE COMPANY have opened a branch at Horsham, Sussex.

MR. E. HEMMING has opened the Trelyn Drug-stores at Briton Ferry Road, Neath.

MR. B. R. COWGILL, chemist and druggist, has bought the business of Mrs. Cossens, 12 Church Street, Monmouth.

MR. W. E. HUMPHREY, chemist and druggist, has bought the business lately carried on by Mr. T. G. Dickson at Sutton, Camb.

MR. ARTHUR F. CONRAD has purchased the branch business lately carried on by Messrs. Black & Co at 7 Islington Road, Brighton.

MR. F. H. JOHNSON, chemist and druggist, late of 231 High Street, Lewisham, S.E., has purchased the business of the late Mr. A. B. Passmore at 78 Upper Tulse Hill, S.W.

THE business of the late Mr. E. P. Guest, chemist, Brentwood, is being carried on by the widow, Mrs. J. Guest.

MR. H. S. PEARMUND, pharmaceutical chemist, High Street, Tunbridge Wells, is opening a branch pharmacy at Calverley Road, Tunbridge Wells.

MR. E. R. JONES, pharmaceutical chemist, has bought the branch business of the late Mr. Slack, at 7 St. Helen's Terrace, St. Quintin's Park, N. Kensington, W.

MR. E. A. HOLLOWAY has disposed of his Dulwich business to Mr. Liddle, late of Middlesborough. Mr. Holloway has also sold the Royal Standard Wine Company to Mr. Fred Tall, Plymouth.

MESSRS BOOTS (LIMITED) have opened a new branch at Carfax, Oxford, and have also taken premises in High Street, Merthyr-Tydfil, Dartford, Brighton, and Worthing, which they will fit up and open in due course.

MR. CHARLES HARE, chemist and druggist, has purchased the old-established dispensing business of the late Mr. G. J. Wilding, at 29 Liverpool Road, Birkdale. Mr. Hare will personally supervise the new business, his other establishment at 10 Liverpool Road being carried on as a branch under qualified management.

MARRIAGES.

MICHIE—WELLS.—On March 6, at Glasgow, by the Rev. R. Armstrong, M.A., Alexander Michie, chemist and druggist to Mary, second daughter of the late Mr. Andrew Wells Edinburgh.

WYLLIE—BUNCH.—At Edinburgh on March 8, by the Rev. Dr. Stewart, New Greyfriars', Harry Boak Wyllie, chemist and druggist, to Colina Forsyth, second daughter of Mr. J. A. Bunch, late bandmaster 2nd Seaforth Highlanders, bandmaster Q R V.B.R.S.

DEATHS.

ECKERSLEY.—On March 8, Mr. Joseph Eckersley, who formerly traded as a chemist at Grimshaw Lane, Middleton Junction, near Manchester. Aged 55. Mr. Eckersley died suddenly from an overdose of opium, which had been prescribed for him in small doses by his medical adviser.

GIBSON.—At Battle Hill, Hexham, on March 1, Elizabeth Judith Frances, wife of Mr. John Pattison Gibson, chemist and druggist, and mother of Mr. John Gibson, F.C.S., of Hexham. The late Mrs. Gibson took a deep and active interest in Church work in Hexham, and sympathetic public allusion was made to her death by the rector.

JONES.—On February 24, Mr. Charles Henry Jones, chemist, late of 189 Breck Road, Liverpool.

MARSH.—On March 10, at 6 Milsom Street, Bath, Mr. John Hoskins Marsh, of Steele & Marsh, chemists, Bath. Aged 67. Mr. Marsh had carried on business in Bath for nearly forty-five years.

SIMPSON.—On February 26, at West Kensington, W., Professor Maxwell Simpson, M.D., F.R.S. Aged 87. Professor Simpson was born at Beech Hall, co. Armagh, and educated at Trinity College, Dublin. It was a meeting with the chemist Dumas in Paris, that caused him to devote himself to chemistry, and associate himself with Kolbe at Marberg, Bunsen at Heidelberg, and Wurtz at Paris for several years. From 1870 to 1890 he was Professor of Chemistry at Queen's College, Cork, retiring on a pension. Besides being a Fellow of the Royal Society, Professor Simpson was a Fellow of the Chemical Society since 1857. He served for two periods on the Council, and was a Vice-President from 1872 to 1874. When the British Association met in Dublin in 1873, Professor Simpson was President of the Chemistry section.

TAYLOR.—On March 8, at Leytonstone, Mr. Thomas Willfray Taylor, aged 76, for forty-seven years with Messrs. E. Cook & Co., soap-manufacturers, Bow, E.

Westminster Wisdom.

(By our Parliamentary Representative.)

DISINFECTION THE HOUSE.

The promise which the Chancellor of the Exchequer made to the House of Commons to see whether "something could be done" towards making the House influenza-proof has been fulfilled. Last week a large number of lamps, over which were placed tin dishes containing eucalyptus oil, were seen burning in all the corridors and in the Chamber itself. From the dishes such a strong and unmistakable odour went up that even the most nervous members felt secure.

AMENDMENT OF THE MIDWIVES BILL.

The Midwives Bill is undergoing a somewhat severe handling in the Grand Committee on Law, and an amendment has been carried to the

effect that no woman who is not certificated shall be entitled to sue in a court of law for her fees for professional attendance. Sir Michael Foster is one of the midwives' champions, and Sir W. B. Foster and Sir J. B. Tnke lead on the medical side.

ANOTHER VACCINATION BILL.

Mr. Channing has introduced a Bill to provide that no prosecution under the Vaccination Acts shall be commenced without the authority of the Guardians.

LYMPH AND BLOOD-POISONING.

A point of some interest arises in a question put to Mr. Grant Lawson by Mr. Corrie Grant. A Mr. Essex died of blood-poisoning eleven days after vaccination, and what the hon. member desired to learn was how far back the lymph used, No. 1,538, could be traced. From the official answer it appears that some lymph was obtained by the Local Government Board from Cologne in December, 1900, and it has passed through a series of five calves in succession. The resulting lymph was that used in the case of Mr. Essex. The original lymph and that derived from it have been used in the vaccination of 264 calves, and no complaints have been received of ill effects from the use of the resulting lymph in any other case, although it has been used for the vaccination of a large number of persons. The Department cannot give precise information as to the derivation of the particular lymph obtained from Cologne, but as a rule the stock there is renewed by inoculation of the calf with human vaccine lymph.

IS SACCHARIN SMUGLED?

In reply to a suggestion that bags of flour have been used extensively at Havre for the purpose of smuggling saccharin into the United Kingdom, the Treasury have stated that the Board of Customs have no knowledge of such alleged extensive misdoings at the continental port. Every precaution is being taken to prevent such a practice.

COLOURING WITH COPPER SALTS.

I mentioned last week the recent prosecution in Halifax of certain traders for selling preserved goods stated to be coloured by the use of copper salts, and said that the attention of Mr. Long was to be called to it. The right hon. gentleman has now acknowledged receipt of the communication. As for the suggestion that a schedule of such colouring-matters as may be considered inimical to the public health should be issued for the information of traders,

and another suggestion that a Bill should be introduced to give effect to the recommendations of the Departmental Committee on the use of preservatives and colouring-matter in food, it is stated that the report is under consideration, and that no announcement can be made on the subject at present. It transpires that only one or two sanitary authorities have communicated with the Local Government Board on the subject.

DYSENTERY AND ENTERIC.

I understand that the report of the commission of experts appointed to inquire into the causation, pathology, and modes of prevention of dysentery, and its connection, if any, with enteric fever, is now completed, and will be placed in the hands of the printers forthwith.

Trade Notes.

THE CHEMISTS' EXHIBITION is to be held in Manchester from June 3 to 6. Full particulars regarding it may be obtained from the Manager, 44 Bishopsgate Without, London, E.C.

THE TUBOR FILTER, introduced by the Berkefeld Filter Company (Limited), 121 Oxford Street, W., at the beginning of the year, has been purchased by the Government for the use of the troops in South Africa.

BROMPTON HOSPITAL COUGH LOZENGES—We answered a legal query last week which gets an annotation this week from Messrs. John Richardson & Co. (Limited), Leicester, who state in our advertisement pages that they are the only authorised makers of the lozenges referred to, and that the formula has never been published.

THIS TOOTH-POWDER BOTTLE is unique amongst things of its kind in being made entirely of glass under a patent which Messrs. H. P. Thompson & Co., 93 Aldersgate Street, London, E.C., have recently acquired. The bottle is made of sparkling white flint glass, and the stopper screws into it. In the stopper itself is an orifice which is closed by means of a subsidiary stopper, also made of glass, and fixing with a bayonet-catch. The shape illustrated is one of several styles that Messrs. H. P. Thompson & Co. offer, and they inform us that they also make special patterns to order, reserving any special pattern exclusively for the individual firm who order it. This is an important consideration to those who adopt this bottle for tooth-powders of their own. The bottles cost 30s. a gross, and there should be no difficulty in getting 6d. for them minus the tooth-powder. Messrs. H. P. Thompson & Co. have now a full stock of B. & B. cotton-wool. There was such a demand for this when they brought it to the notice of the trade a few weeks ago that they ran quite out of stock, chemists having appreciated the package as well as to the fine quality and low price of the wool. It is put up in 1-oz., 2 oz., $\frac{1}{2}$ -lb., $\frac{1}{2}$ -lb., and 1-lb. cartons, and is as thin as lint in layer, but swells out greatly when held to the fire.



THE PRESCOT YEAR-BOOK.—Mr. G. G. Hemingway, chemist and druggist, who commenced business in Prescot a year ago, has got out a very interesting "Year-book" for local distribution. A feature is made of local information and

history, many illustrations of the noted men and conspicuous features of the landscape being introduced. The business side is not neglected, a price-list being prefaced by a vigorously-worded protest against the use of quack medicines and the ways of unqualified drug-stores. The year-book has made an excellent start.

EUCALYPTUS OIL.—Messrs. Stevenson & Howell (Limited), 95A Southwark Street, S.E., send us a sample of eucalyptus oil, B.P., which analysis shows to be of high quality. The oil contains, according to an average analysis of five cases, 64 per cent. of eucalyptol, has a sp. gr. of 0.920, an optical rotation of -5°22', and is free from phellandrene. We have no particulars of the price of the oil, but this can be obtained by applying to the firm.

The ILLUSTRATED PRICE-LIST published this week by Messrs. Wright, Layman & Umney (Limited), Southwark, S.E., contains a large number of new items amongst their packed pharmaceuticals for retail sale by chemists. The list includes anti-obesity pills, ball-floor polish, balsam of horehound, camphor ice, carbolic disinfecting powder, carbolic liquid dentifrice, chilblain ointment, comp. syrups of prunes and figs (new design), ext. malt (new design), ext. malt and cod-liver oil, eau de Cologne dentifrice, fullers' earth, hair-dye, haemorrhoid ointment, pig powder, malted glycerophosphates, musk-scented oatmeal, quinine and iron tonic, quinine wine (new design), rennet powder and essence, saline (new design), seidlitz powder (new design), sylvozone, toilet lanoline, toilet paraffin, and toilet soaps (new designs). Examination of the illustrations shows that the articles are put up in tasteful and appropriate styles. Thus, the anti-obesity pills are in a little phial that goes in the vest-pocket; the extract of malt and malt with cod-liver oil are obtainable in four distinct styles of labels and cartons, all being artistic and original in design. Chilblain ointment is put up in boxes, and the haemorrhoid ointment in collapsible tubes with anal pipe. Besides the medicinal and household specialities the list contains numerous examples of toilet preparations and perfumery, most of them being beautifully illustrated with half-tone blocks, and it concludes with a concise list of toilet soaps, with photographic reproductions. A copy of the list will be sent post free to any C. & D. subscriber who sends for it.

Trade-Marks Applied For.

(From the "Trade-marks Journal," March 5, 1902.)

- Device (the essential particular); for an embrocation. By Susannah Marian Helmore, 47 Munster Road, S.W. 237,127 and 236,299.
- "BEETAWLINE" (no claim for "Beatall"); for vermin-destroyers. By R. L. Snow, 1 Fell Street, Wood Street, E.C. 243,072.
- "YAM-GA"; for a vermin-killer. By Lorimer & Co. (Limited), Britannia Row, Islington, N. 243,346.
- "RESA"; for medicines in Class 3. By W. F. Reid, Fieldside, Addlestone, Surrey. 243,009.
- "NEURILLA"; for a medicine. By the Dad Chemical Company (Incorporated), 105 Chambers Street, New York City, U.S.A. 242,801.
- "ST. EDMUND'S OIL" ("St. Edmund's" the essential particular); for an oil. By E. Tennant & Co., 183 Wollaton Street, Nottingham. 243,063.
- "GADUOL"; for chemicals. By Merck & Co., University Place, New York City, U.S.A. 243,265.
- Pyramid device and the word "PYRAMID"; for glycerin. By J. Crosfield & Sons (Limited), Warrington. 243,276.
- "VARATOS"; for an ointment. By the Varatos Company, 23 College Hill, E.C. 243,589.
- "PALMOS"; for photographic apparatus. By Carl Zeiss, 29 Margaret Street, Regent Street, W. 243,262.
- "ST. BRUNO," "TABS," "BEESWING," "MIDNIGHT," and "ST. INO"; for indiarubber and gutta-percha goods. By Ogdens (Limited), Boundary Lane, Liverpool. 243,858, 243,861, 243,864, 243,870, and 243,873.
- "MARAPI"; for foodstuffs. By J. Travers & Sons (Limited), 119 Cannon Street, E.C. 243,306.

"TASRIC"; for baking-powder. By the Liverpool Chemical Company (Limited), 54 Stanley Street, Liverpool. 243,942.

"VOLKA"; for mineral and aerated waters. By R. White & Sons (Limited), Camberwell, S.E. 243,159.

Device (the essential particular) of a flame, and the word "IGNIS"; for solidified oils for heating. By Jacob Widmer-Ackermann, 16 Haldenbachstrasse, Zurich, Switzerland. 242,913.

"ERIMUS"; for goods in Class 47 and perfumery and toilet-articles. By A. Hinton & Sons, South Street, Middlesborough. 242,292 and 242,293.

"POP CORN"; for perfumery and toilet-articles. By the Vinolia Company (Limited), Malden Crescent, N.W. 242,488.

Personalities.

MR. JAMES HORLICK, of Cowley Manor, Cheltenham, and the inventor of Horlick's malted milk, has been appointed High Sheriff of the county of Gloucestershire.

MR. W. W. ROBINSON has taken up the London representation of Messrs. Barrett & Elers (Limited), of the Carb-acid Gas Works, Dace Road, Old Ford, E.

MR. F. HEAP has been appointed resident representative in Scotland to Messrs. S. Claber & Co. (Limited), manufacturers of specialities for soap makers and perfumers, Manchester.

MR. JOHN C. McDougall, who has been appointed Chairman of the London County Council, was formerly an active member of the well-known firm of disinfectant and sheep-dip manufacturers, Messrs. McDougall Brothers (Limited), Mark Lane, E.C.

MR. G. CLARIDGE DRUCE, M.A., F.L.S., has just been unanimously elected President of the Natural History Society of Northamptonshire, a Society which he founded when resident in that county. His predecessors in the chair include Lord Lilford, the well-known ornithologist, the Rev. Canon Saunders, and Sir Hereward Wake, Bart. Mr. Druce has just completed the "Flora of Northamptonshire" for the Victoria County History, and is to take a holiday in Sicily.

IN connection with the death of Mr. Wm. Rathbone, Liverpool, Sir John Brunner gives the *Times* an interesting bit of reminiscence. It had been stated that Mr. Rathbone was first the pupil of the Rev. John Brunner, and later of Mr. Charles Voelcker, of San Domingo House. Sir John Brunner's father, who, like Mr. Voelcker, was a pupil of Pestalozzi, came to England in 1832, to enter into partnership with Mr. Voelcker at San Domingo House, remaining there till his marriage in 1835, when he established another school at St. George's House, also at Everton, then the fashionable suburb of Liverpool, retiring in 1863. The friendship between Mr. Rathbone and Sir John's father remained close and warm until the latter's death; and Sir John recalls with pleasure and gratitude how, in 1886, he became in turn, in political matters, Mr. Rathbone's pupil. In that year he met in the House of Commons, besides his late friend, Mr. Mitchell Henry, Sir Charles Tennant, Sir Bernhard Samuelson, and Sir James Stansfeld, all of them old pupils of his father.

MR. ROBERTS, chemist and druggist, has purchased the business of Mr. Guy (late Brisley) at Station Road, Bexhill-on-Sea.

THE oldest-established business in Camberwell—that of Mr. Presbury (Messrs. Moody & Catterns) at 93 Church Street, Camberwell, S.E.—has been closed.

ACCORDING to the first Glasgow directory, published privately by a certain enterprising Mr. Jones in 1787, "laboratory shop" and "laboratory" were already euphemisms for "druggists' shop" and the genteel "chymist" was beginning to oust the plebeian "druggist."

THE LIGHT SIDE OF SHOP LIFE.—Extract from a letter received by a chemist from a country customer: "The air is very embracing here, but my hasma is very bad. I think my lights (lungs) must be water-logged, and my heart off the plumb (perpendicular). Please send me some of the stu to burn, the same as the house next door got to smoke out the tubes."



TO CORRESPONDENTS—Please write clearly and concisely on one side of the paper only. All communications should be accompanied by the names and addresses of the writers. If queries are submitted, each should be written on a separate piece of paper. We do not reply to queries by post, and can only answer on subjects of general interest.

Importation of Butyl Alcohol.

SIR,—I am directed by the Commissioners of His Majesty's Customs to inform you, with reference to the inquiry in your letter of January 10 last, that the subject of the position of Butyl and Propyl Alcohols with reference to the spirit duty has been under their consideration, and that, subject to test in the laboratory of the Department, it has been decided not to treat these articles as liable to duty upon importation into the United Kingdom.

I am, Sir, your obedient Servant,
Custom House, London, R. HENDERSON.
March 10

Glasgow.

SIR—I do not quite understand why Mr. Sutherland, for whose opinions I have always had great respect, is publishing all this information regarding the inner workings of the Glasgow pharmaceutical community. Various hints have been dropped in the "Glasgow Notes" of the C. & D. recently regarding the probability of an English Cutting Company making an attack on Glasgow, and the most recent rumour would indicate that this matter has gone beyond the proportions of mere menace. If recent rumours are true it is possible that Mr. Sutherland's letters are not altogether unconnected with this rapid development of matters. I think it not unlikely, however, that the English company which tackles Glasgow will find its Moscow. Pharmacy in Glasgow differs very greatly from pharmacy in the midlands, and I imagine it will not be easy for a harassed Drug Company to eke out precarious dividends by dealing in fancy goods, stationery, and carpet bags. This sort of thing may do well enough in districts where chemists deal mostly in paints and oils, but it would hardly work in Glasgow. Meanwhile I would counsel Mr. Sutherland, and those associated with him, to thoroughly organise the chemists of Glasgow, hold regular meetings, shorten hours, and beyond everything else make no effort to stiffen the prices of patents. These cutting firms rely almost entirely on patent cutting, and have always done so. Chemists everywhere must be prepared to sell patents without profit. The loss to pharmacy which is bound sooner or later to follow a stiffening of patents prices can never be made up by the gain of a penny here and twopence there. Of course if prices are stiffened by such an institution as the P.A.T.A., that is a different matter, but no community of chemists can afford to come to private arrangements. In this matter, also, the Glasgow chemists must act as a united body. No firm is so large, nor is any business so small, as to be able to stand alone without damaging the whole community. Let chemists always remember that one great foothold these stores have always taken every advantage of has been disunion and apathy amongst chemists. The main plank of the stores platform, however, has always been the price-list. Now I think this can be met by chemists. A price-list might be published by the Glasgow Association, and each chemist might be supplied with as many copies as he is willing to pay for, with his name outside. Chemists outside Glasgow would, I am sure, take advantage of this by also supplying themselves with price-lists. Patents would have to be put in at the lowest stores prices, and other articles quoted as in stores lists. I hope this idea will not be allowed to drop, as I am quite certain of the advantage which would be reaped by chemists were Glasgow and district flooded with these price-lists. It will serve no good purpose for one or two firms to publish price-lists. To be effective they must be issued by every chemist in Glasgow and strictly adhered to. Chemists must not think

that because this company is little known in Glasgow it can do little harm. If chemists take vigorous action now it can do little harm, but if they wait for the pinch they cannot recover lost ground. Let chemists remember that the people who snivel about giving a fair living wage to chemists will have no compunction at all about turning them, their wives and children, on the street penniless, if it is possible. The only hope chemists have, so far as I can see, for final emancipation from this kind of injustice rests in the power of the Pharmaceutical Society to hold its ground for five or six years more. There are practically no lads entering pharmacy now, and if the Society holds its own, qualified assistants will be in a position to ask not only a fair wage, but a wage which will break the backs of all these unqualified pirates whose presence in the field of pharmacy constitutes one of the grossest injustices of the present day.

JAMES REID.

Dumfries, March 10.

"Hebenon" = Eibenbaum.

SIR.—In the summary of Mr. J. G. Slater's interesting address, "The Pharmacist in Literature," in the C. & D., November 9, 1901 (page 785), I find the curious suggestion—entirely new to me—that "the poison poured into the ear of Hamlet's father is supposed to be the juice of the tobacco-plant, which was held in great disrepute in Shakspere's time." Now, though Shakspere was not specially punctilious in the matter of the unities, he could scarcely have been guilty of the anachronism of representing tobacco—first introduced into Europe within his own memory—as known in ancient Denmark. Moreover, "hebenon" is a specific term which I do not think can be shown to have ever been applied to tobacco. In Mr. Leo Grindon's "Shakspere Flora" (1883) the subject is considered. Mr. Grindon has high qualifications both as botanist and philologist, and his explanation seems to be the true one. He identifies "hebenon" with the yew (*Taxus baccata*), which is well known to toxicologists as containing a specific poison (*vide* Taylor). Mr. Grindon says: "Though the juice of the sweet and viscid berries is not harmful, the seeds of the yew and the leaves are deadly poison." After reminding us that "slips of yew" form one of the ingredients of the witches' hell-broth in *Macbeth*, he writes: "What kind of liquid poison Shakspere intended by 'hebenon' has been a subject of much conjecture, opinions oscillating chiefly between 'henbane,' and poisons in general, those who hold the latter view overlooking the minute description of the symptoms and pathological results. The word in question is a varied form, not of 'henbane,' or, as some suppose, of 'ebony,' but of the name by which the yew is known in at least five of the Gothic languages; the name which appears in Marlowe, Spenser, and other writers of the Elizabethan era as 'hebon'—

In few, the blood of Hydra Herne's bane,
The juice of hebon, and Coeytus' breath,
And all the poisons of the Stygian pool.
—*Twelfth Night*, iii. 4—

and which in the First Quarto itself is spelt hebona. 'The yew,' says Lyte, translating Dodoens, 'is called in high Dutch ibenbaum, and accordingly, in base Almaigne, ibenboom. . . . This tree,' he goes on to say, 'is altogether venomous, and against man's nature. . . . Such as do but only sleep under the shadowe thereof become sicke, and sometimes they die' (*Herbal*, 1578). The extract is used, he says further on, 'by ignorant apothecaries, to the great perile and danger of the poor diseased people' (p. 768). From the latter sentence we may gather how the murderer was enabled to possess himself of the deadly juice, which he is not to be supposed as preparing with his own hands, but as procuring from one of the herb-doctors who kept it for sale. Why Shakspere should say 'hebenon' instead of 'yew' does not appear, nor does it signify. The scene being laid at Elsinore, perhaps he was careful to employ a word believed or known to be Danish." The author adds the following footnote: "The above teaching as to the true sense of 'hebenon' has been before my pupils for at least twenty-five years. It was with great pleasure that I saw my views confirmed in the report of a paper read by the Rev. W. A. Harrison before the London Shakspere Society, May 12, 1882."

Yours, &c.,

Wellington, N.Z., Jan. 25. R COUPLAND HARDING.

Lapis Infernalis.

SIR.—I appear to have written in my letter of last week that Brookes gives the name *Lapis infernalis* to caustic potash. I should have said—as the context shows—to lunar caustic.

Yours, &c.,
C. C. BELL.

The Saccharin Patents.

SIR.—Referring to our interlocutory motion before Sheriff Campbell Smith, at Dundee, mentioned in your last issue, which was dismissed on the ground of want of specification, we immediately gave notice of appeal. Since then the defendant has, through his solicitors, offered to give an undertaking not to infringe again our patents during their existence, and to pay an agreed amount for expenses, &c. This offer we have accepted.

Yours faithfully,

THE SACCHARIN CORPORATION (LIMITED).
165 Queen Victoria Street, E.C., E. COLLARD.
March 11.

Solubility of Liquorice-juice.

SIR.—I notice in the last issue of your journal that you give the results of a number of analyses of selected samples of liquorice-juice. These are fairly in accord with my own experience, with the exception of the last figure, which is stated as follows:—Soluble in water, 21 to 31 per cent. I have found commercial samples to contain soluble matter from 50 to 70 per cent., and at present have a sample before me which yields 73 per cent.

Yours faithfully,

Exeter, March 11. H. WIPPEL GADD.

"Propiol as a Trade-mark."

SIR.—With reference to your editorial note on above subject in your issue of March 8, we beg to point out that we acquired proprietary rights to the term "propiol" before any reference appeared in the trade or professional papers in this country. "Propiol," being the essential particular of the term "nitro-propiol," we can and will prohibit any firm or firms from damaging our trade by illegally describing their goods as "propiol" or "nitro-propiol."

Yours faithfully,

83 Upper Thames Street, E.C., F. WILLIAMS & CO.
March 11.

B.Sc. Pharm.

SIR.—With reference to the proposed Scotch degree in pharmacy, I take it that Mr. Tocher's scheme consists in simply getting the University authorities to include *materia medica* and *pharmacy* in the choice of subjects at the final B.Sc., the other examinations being unchanged. The scheme, therefore, is worthy of all support, excepting the suggestion to call the degree "B.Sc. Pharm." Why the "Pharm." I am at a loss to understand. In fact, such an appendage would lower the value of the degree, although the examination in the new subjects would be probably more difficult. I am sorry that one or two of the pharmaceutical councillors are inclined to discourage the scheme, apparently for the reason that it might place the English students at a disadvantage, but this could easily be counteracted by getting the English Universities to follow suit. It is manifestly unfair for a pharmacist not to be able to turn his knowledge of *pharmacy* and *materia medica* to account in working for a degree. There need be little fear of this change affecting the Major examination, as those men who went in for their degree would certainly take their Major at the same time, the work being then practically identical.

Yours faithfully,

J. A. HUGHES, Int. B.Sc. Lond., Ph.C.
Bristol, March 11.

The "Volunteer Compounder's Hard Case."

SIR.—This matter was very well put by a correspondent in your issue of March 8, and his letter should arouse more than passing interest, especially amongst those civil men who not long ago might have told the same tale. The difficulty of obtaining one's discharge from the R.A.M.C. can only be understood by those who were, or are, Volunteers in the ranks of that corps. Civil compounders seemed to have all along a greater amount of trouble than the ordinary

Volunteer in this respect. "Regimental" orderlies could always be obtained from the various convalescent camps, and I may say in passing that these regimental orderlies did their work in a satisfactory manner, and must have been a very good addition to the R.A.M.C., as many of the hospitals would not have got along at all without such assistance. Compounders, of course, could not be thus recruited, and details had to be sent from Cape Town or other base up to such hospitals as required them. The terms of enlistment read so glibly that hardly any of us anticipated any difficulty in getting away at the end of the year. The conditions read, as well as I can remember, short service, "for twelve months, or the duration of the war." It is surely a grievance that the latter clause should have been so much pressed into service, and the twelve months allowed to extend into eighteen months, and in some cases almost two years. I am sure there was not one among us but served the first year with pleasure, and felt that we owed our country so much for patriotism's sake, but when the second year began to drag along wearily, wearily, everyone got fed-up, and began to wonder what species of madness it was that made us volunteer. If any arrangement had been made by which men might have been sent home for a short furlough, very few of us would have objected, if asked, to do a few months extra. One or two Volunteer companies seemed to have been allowed home shortly after having twelve months in the country, but compounders were at a disadvantage in this that they had not any representative unit to look to, seeing that they hail from everywhere in the Empire. It would have been a kindness that would be reciprocated, when the assistant of to-day becomes the master of to-morrow, if the Pharmaceutical Society had made some attempt to get the R.A.M.C. to recognise us in some way. No doubt we would have been much better treated, and would have had a proper rank accorded us, instead of seeming like an excrescence on the R.A.M.C. Perhaps matters will be improved when compounders are required for another campaign.

Yours faithfully,

LATE COMPOUNDER R.A.M.C. (174/14.)

Is Ragweed in Requisition?

SIR.—One of the *British Medical Journal* young men, commenting on some works on rhinology, speaks airily of the "injection of extract of ragweed."

Certain varieties of *Ambrosia* are used in America, I believe, to check mucous fluxes, but I am not aware that the remedy is known to British pharmacy. Should it be in general use, perhaps some of your correspondents will enlighten my ignorance, as one should know something about a substance so glibly described. Yours truly,

Dublin, February 22.

L.P.S.I. (159/36)

Dispensing Notes.**Why is This?**

SIR.—The following formula has been dispensed by me for a local doctor. He says it produces frequent diarrhoea. Can you account for this effect? Individually the ingredients are not purgative. Perhaps the mixture produces a compound that is so:—

Phenazoni	...	...	...	...	gr. v.
Sodii salicyl.	...	...	...	...	gr. x.
Sodii bromiæ.	...	...	...	...	gr. xx.

M. Ft. pulv.

ULSTER. (157/30)

[The phenazone salicylate which is formed may irritate the intestines and thus cause diarrhoea, especially if the powder is taken frequently and the patient is weak.]

Replies.

SIR.—The formation of deep-purple iron salicylate in R. H. A.'s first mixture seems impossible. I have made an otherwise presentable and homogeneous mixture by adding the tinct. ferri last, having previously thoroughly suspended the salicylic acid (thrown out on mixing soda salicylate with the quinine dissolved in HBr.) with pulv. trag. comp. It is

evidently a case in which the prescriber should be consulted if possible.

I have been unable to obtain the dark product G. H. A. speaks of in dispensing the lotion, but find that the slightest trace of iron brought in contact with it has the effect complained of. The experience of others would be interesting.

CHAS. FLINT.

Miscellaneous Inquiries.

We endeavour to reply promptly and practically to trade questions of general interest, but cannot guarantee insertion of replies on a particular date, nor can we repeat information given during the past twelve months.

153/25. P. F.—(1) There is no more comprehensive receipt-book published than "Pharmaceutical Formulas." (2) A 1-per-cent. veratrine-ointment contains a poisonous vegetable-alkaloid, and falls into the Poisons Schedule. (3) Tonic Hair-cream:—

(a) Crem. amygd.	...	...	...	3j.
Glycerin	...	...	...	3j.
(b) Ol. amygd.	...	...	...	3vj.
Lanolin.	...	...	...	3ss.
Otto rosæ	...	...	...	3vj.
(c) Tinct. canthar.	...	...	...	3j.
Aqua	...	...	...	3ij. 3vj.

Make *a* and *b* in separate mortars and gradually add *b* to *a*, then stir in *c* little by little.

(4) Soothing Skin-cream for infants' skin:—

Lanoline	...	...	...	3ij.
White vaseline	...	...	...	3ij.
Boric acid	...	...	...	3j.
Oil of sweet almonds	...	...	...	3ss.
Otto of roses	...	...	...	3vj.

Mix.

153/36—*Radix* is a Birmingham man, living there too, and he writes to us as follows:—

Kindly inform me per your valuable paper, the *C. & D.*, whether the Birmingham University accepts the Durham matric. in lieu of its own matric.? I have written to the Birmingham University myself, and they reply that they believe they do; this is vague and indefinite, hence I am writing to you for a definite answer, as, no doubt, they would give you one in virtue of the high scientific character of your journal.

A letter like this is one of the little pleasures which fall to pharmacists who edit journals of pharmacy. They imagine that if they were in Birmingham they would step round to the 'Varsity (the proper word, we believe) and have the matter settled in five minutes or less, but since we are not in Birmingham and "Radix" is, we leave it to him to interview the 'Varsity authorities. He may, at least, ascertain what are the foundations of their belief.

113/31. R. W.—Children's Powders.—The doses of your formula (pulv. antimonialis 2, hydrgarg. subchlor. 2, pulv. sacch. alb. 12) would be adjusted as follows:—

Two to four months...	...	...	gr. iii.
Four to six months ...	...	...	gr. ivss.
Six to ten months ...	...	...	gr. vj.
Ten months and upwards ...	...	...	gr. x.

150/53. Crumpsall.—Liquid Coffee.—See *C. & D.*, January 4, page 29.

152/46. Gardner.—(1) The Lighting-cleanser is an excellent article for cleaning cloth. It is made as follows:—

Castile soap	...	...	...	3iv.
Boiling water	...	...	...	3ij.

Dissolve and add when cold—

Strong solution of ammonia	...	...	3vii.
Ether	...	...	3ij.
Rectified spirit	...	...	3iv.
Oil of citronella	...	...	3ss.
Water to	...	...	Coag. j.

Mix.

(2) Ringworm-lotion for Cattle. A solution of sodium hyposulphite, 4 oz. to the pint, is the best general lotion for this purpose.

146/37. E. E. S.—Blue-black Ink:—

Blue Aleppo galls	...	...	...	3ivss.
Bruised cloves	...	...	...	3j.
Water	...	...	...	3ij.
Iron sulphate	...	...	...	3iss.
Methyl blue	...	...	...	3j. 3vj.

Exhaust the galls and cloves with the water, filter the product, add the iron sulphate previously dissolved, and lastly, the aniline-dye

146/13. Zeta.—(1) Combined Toning and Fixing Bath.

—You do not say which of the half-dozen formulae in the DIARY you have tried. Our experience is chiefly with No. 2 (page 529), and we find it keeps a reasonable time.

(2) Metol-quinol Developer (one solution):—

Metol	...	...	...	...	50 gr.
Quinol...	...	...	...	...	40 gr.
Sodium sulphite	...	...	...	...	1 oz.
Sodium carbonate	...	...	...	...	1 oz.
Potassium bromide	...	...	...	...	25 gr.
Water to	...	...	...	...	20 oz.

Dissolve.

150/45. B. & Co.—(1) Horse-colic and Inflammations Draught:—

Ether rect.	...	...	...	...	3ss.
Tr. opii	...	...	...	...	3vj.
Spt. ammon. arom.	...	...	...	...	3j.
Tr. asafetidæ...	...	...	...	...	3s.s.
Ol. lini ad	...	...	...	...	Oss.

M. Ft. haust.

Give at one dose, and repeat in an hour if necessary.

(2) Horse Cough powders:—

Pulv. camphoræ	...	...	...	...	5ij.
Potass. chlorat.	...	...	...	...	3iss.
Pulv. fol. belladon.	...	...	...	...	3iss.
Pulv. anisi	...	...	...	...	3ij.

Divide into twelve powders. Give one twice a day in the food.

12/2. Setay—Violet Hectograph Ink as your sample:—

Methyl-violet...	...	...	...	...	3ij.
Spirit	...	...	...	...	3ij.
Water	...	...	...	...	3vj.

Mix.

159/11. A. H. B.—Ol. menth. pip. ang. improves with age.

63/35. R. P. S.—What do you mean by ordinary wool-fat? If the commercial suint, it is not suitable for making adeps lanæ. The principle of the lanolin patent was to separate the natural wool-fat from the soapy wool-washings by centrifugal action. The fat was thus obtained free from the soap-fat, and was put through an elaborate process of solution and purification which cannot be carried out economically on the small scale.

156/23. Bernardo.—Hindoo Hair-dye.—Add the ammonia solution until the precipitate dissolves. The copper sulphate is chiefly colouring.

157/5. S. G.—Commercial Citrate of Lime contains, in addition to the true salt, a certain amount of magnesium, with excess of lime and often other salts of lime. The estimation of the citric acid and the excess of lime usually suffices for the examination of this substance. For this purpose 5 grammes is dissolved in a known quantity of standard HCl, kept gently boiling for a short time, cooled, and titrated with standard alkali. Further, the excess of lime (or chalk) can be calculated. To determine the amount of citric acid, a known weight of the sample is ignited, the ash boiled with standard acid, and the liquid titrated with alkali. The acid used corresponds with the chalk as free calcium carbonate, and that produced by ignition of the organic salts. By retitrating the result found for free chalk the equivalent of the organic acids is found. This, however, returns all the organic acids as citric acid; if greater accuracy is needed, the citric acid must be first precipitated from hydrochloric-acid solution, but this is seldom necessary.

99/74. A. G. L.—Your sample of Rheumatism-powder appears to be a deteriorated specimen of powdered cinchona.

130/31. *Lex.*—**Distemper Mess.** for Dogs.—The following contains the chief ingredients of the sample you send:—

Powdered soap	...	...	15 parts
Powdered jalap	...	...	10 parts
Powdered aloes	...	...	5 parts
Tartar emetic	...	...	1 part
Powdered liquorice	...	...	15 parts
Glycerin to make a mass			

A piece weighing from 40 to 60 gr. to be given for a dose once a week.

7/58. *Syston.*—A village with 310 houses and 1,300 inhabitants will give a chemist a rather poor living, as 2,435 persons to the chemist is the normal condition at present, but that does not reckon the stores. The venture should, however, be a good waiting one, and with smart business methods the 1,300 may do wonders. We have seen a good business in a smaller place.

153/18. *Devoniensis.*—The sample of Tooth-powder made in Paris has the following composition:—

Pulv. saponis alb.	...	...	5j.
Pulv. iridis	...	...	3ss.
Magnes. carb. pond.	...	...	5j.

Misce bene.

155/19. *J. C. R.*—Books on the Management of Babies.—Mrs. Langton Hewer's "Our Baby" (Wright & Co., 1s. 6d. and 2s. 6d.); Chavasse (P. H.), "The Management of Children" (J. & A. Churchill, 2s. 6d.).

159/19. *E. S. B.*—(1) Books on Botany.—Either Bower's "Practical Botany for Beginners" (Macmillan, 3s. 6d.) or Scott's "Introduction to Structural Botany" (Black, 3s. 6d.) will suit you. (2) We have heard Pelman's memory system well spoken of.

152/19. *Vis* has a customer suffering from a recurring swelling on the ear which discharges about once a month, and he asks what treatment should be used. [It is evident that the customer of "Vis" is suffering from an inflammatory condition of one of the sebaceous glands of the auricle. Treatment by cauterisation to be effectual would require to be sufficiently deep as would leave a permanent scar. An ointment with vaseline basis containing a drachm of precipitated sulphur to the ounce should be applied every evening before going to bed by means of a fine hair brush (camel's), and will probably in time favourably influence the part.]

22/2. *E. H. O.*—Your inquiry does not come within the scope of this column.

161/6. *Rani* has a customer whose finger-nails turn black and rot away, and who is afraid the affection is spreading to the toe-nails. The customer is not syphilitic, and is otherwise in good health. "Rani" asks if we can account for it. [Affections of the nails are most frequently of a constitutional nature, as in those suffering from or having a tendency to be the subjects of pulmonary or rheumatic diseases, eczema, psoriasis, &c., less commonly a merely local disease as in ringworm of the nails. Most cases require long, careful, and skilled treatment, and even then the results are not always satisfactory. In this particular case we presume that the by no means rare condition "ringworm of the nails" can be excluded as similar conditions are present in the nails of the toes. The customer should try unguentum acid. salicylic. for a time, and if that fail unguentum sulphuris, keeping in either case the nail short and applying the ointment under the nail at the tip and under the skin at the root. If after two or three weeks' trial no improvement takes place, then a specialist on skin-diseases had better be consulted, as the probability is that some constitutional disease exists in which the affection of the nails is merely a concomitant sign.]

160/69. *Sapiens.*—Cider preservative.—This is, as you surmise, a mixture of sodium salicylate and saccharin (the latter in the proportion of about 1 in 20). We have not come across this mixture for cider-preservation before, but suggest that it be used in the proportion of half to a tea-spoonful to the gallon of cider.

Information Wanted.

Postcard replies to any of the subjoined inquiries will be esteemed.

174/34. Address of makers of vulcanite-combs.

169/59. Makers of any special filter for castor oil?

172/4. Who makes fluid extract kyomiko (?koromiko)?

173/70. Name of a Bath chemist who bottles Bath water.

174/48. Where can lettuce shaving-cream, prepared by a New York firm, be obtained?

Coming Events.

Monday, March 17.

Society of Arts, John Street, Adelphi, W.C., at 8 P.M. Mr. J. D. Geddes on "Photography Applied to Illustration and Printing."

Wednesday, March 19.

Chemical Society, Burlington House, W., at 5.30 P.M. The following Papers will be communicated:—"The Absorption Spectra of Metallic Nitrates." Part I. By Mr. W. N. Hartley. "A Method of Determining the Ratio of Distribution of a Base between two Acids." By Messrs. H. M. Dawson and F. E. Grant. On "The Molecular Complexity of Acetic Acid in Chloroform-solution." By Mr. H. M. Dawson. On "The Existence of Polyiodides in Nitrobenzene-solution." By Messrs. H. M. Dawson and R. Gawler. "Nitrogen Chlorides containing the Proprietary Groups." By Mr. F. D. Chattaway. "Derivatives of *a*-aminocamphoroxime." By Messrs. A. Lapworth and A. W. Harvey. "Preparation of Sulphamide from Ammonium Amidosulphite" By Messrs. E. Divers and M. Ogawa. "Hypoiodous Acid." By Mr. R. L. Taylor.

Pharmaceutical Society of Great Britain (North British Branch), 36 York Place, Edinburgh. Evening meeting, at 8.30 P.M. Mr. G. F. Merson will read laboratory notes on "Collodion of Belladonna B.P.C.;" "Extract and Tincture of Indian Hemp;" and "Tincture and Syrup of Tolu." Dr. Gordon Sharp, on "Is Tincture of Digitalis a Stable Preparation?" Mr. D. B. Dott, on "Extract of Liquorice."

Young Chemists' Association (Working men's Club), Gallowgate, Newcastle-on-Tyne, at 8 P.M. Impromptu discussion.

Royal Microscopical Society, 20 Hanover Square, W., at 7.30 P.M. Exhibition of Foraminifera, by Mr. A. Earland.

Forfarshire Chemists' Association, Mathers' Hotel, Dundee, at 4.30 P.M. Mr. J. F. Tocher will explain his scheme of University Education for Pharmacists. (Tea at 4 P.M.)

Glasgow Chemists' and Druggists' Assistants' and Apprentices' Association. A "Smoker" will be held in the Co-operative Rooms, Glasgow Cross, at 9 P.M. Light refreshments, &c., will be served. Tickets (2s. each) may be had from Mr. F. Bewglas, 733 Dumbarton Road, at the local Schools of Pharmacy, or from any of the town-travellers.

Society of Arts, John Street, Adelphi, W.C., at 8 P.M. Professor Silvanus P. Thompson on "Opto-technics."

Western Chemists' Association, Westbourne Restaurant, Craven Road, W., at 9 P.M. Discussion on "The Stamp Act and its Difficulties," opened by Mr. Leo Atkinson.

Thursday, March 20.

Optical Society, Crown Room, Holborn Restaurant, at 8 P.M. Conversazione.

Barnsley Chemists' Association. General meeting.

Chemists' Assistants' Association. Annual dinner at the Holborn Restaurant.

Glasgow Pharmaceutical Association, at 11 A.M. Mr. J. F. Tocher on "The Scotch Universities and Pharmaceutical Education."

Friday, March 21.

Royal Institution of Great Britain, Albemarle Street, Piccadilly, W., at 9 P.M. Geheimrat Professor Otto N. Witt on "Recent Developments in Colouring matters."

Edinburgh Chemists', Assistants', and Apprentices' Association.

Annual dinner in the Imperial Hotel, Edinburgh, at 9 P.M.

Tickets (4s. each) to be had from Mr. Peter K. Brown (Secretary), 105 Broughton Street, and members of the committee.

The dinner of the Bradford Chemists' Association, which was arranged for April 8, has been postponed to April 22.

Trade Report

NOTICE TO BUYERS.—The prices given in this section are those obtained by importers or manufacturers for bulk quantities or original packages. To these prices various charges have to be added, whereby values are in many instances greatly augmented before wholesale dealers stock the goods. Qualities of drugs and oils vary greatly, and higher prices are commanded by selected qualities even in bulk quantities. It would be unreasonable for retail buyers to expect to get small quantities at anything like the prices here quoted.

42 Cannon Street, London, E.C.: March 13.

ROYAL Exchange merchants have been considerably upset this week by the advent of petticats to the cobblestones, hitherto sacred to the silk-hatted fraternity. The Colonial Products Exhibition, elsewhere referred to, is responsible for the diversion. But business is so dull that the novelty is not regrettable. Cod-liver oil is the next of the important topics. The new medicinal oil is not so good as it should be, and this, combined with the short ante-Easter fishing-season, mires the speculation as to price rather keen. Cinchona sold at better prices on Tuesday. The crude-camphor market is hesitating between rise and fall, while the refined is 1*d.* per lb. dearer. The principal changes of the week are as undernoted:—

Higher	Firmer	Easier	Lower
Camphor,	Cocaine	Copper sulphate	Bismuth carb.
Cinchona	Japan wax		Shellac (2nds)
Cod liver oil (in London)	Oil, bergamot	Gentian	Sod. hyposulph.
Condurango	Senega		
Ergot			
Lycopodium			
Oil, lemon			
Pimento			
Thymol (in N.Y.)			

Arrivals.

The following packages of drugs, chemicals, &c., arrived at the ports of the United Kingdom from March 5 to March 11, inclusive:—Alocs, 78 (@ Bombay); annatto-seeds, 18 (@ Colombo); asafetida, 178 (@ Aden); buchu, 13 (@ Natal); chamomiles, 10 (@ Ghent); caraway, 140 (@ Amsterdam); carbolic acid, 5 (@ Amsterdam); cardamoms, 13 (@ Bombay); 163 (@ Colombo), 16 (@ Rangoon); cassia, 130 (@ Aden); castor oil, 212 (@ Coconada), 25 (@ Leghorn), 10 (@ Antwerp); cinchona, 143 (@ Colombo), 40 (@ Valparaiso); cinnamon, 16 (@ Colombo); citronella, 13 (@ Amsterdam); cloves, 107 (@ Singapore), 30 (@ Penang), 18 (@ Colombo); cod-liver oil, 40 (@ Dromtheim), 128 (@ Aalesund), 130 (@ Bergen), 25 (@ Hambro'); copal, 1,031 (@ Hong-Kong); coriander, 220 (@ Tangier); divi divi, 156 (@ Madras); dragon's-blood, 4 (@ Penang); essential oils, 97 (@ Messina), 7 (@ Ostend), 3 (@ Hambro'), 18 (@ Catania); gambier, in cubes, 1,165 (@ Singapore); gamboge, 2 (@ Aden); gentian powder, 10 (@ Marseilles); ginger, 1,303 (@ Bombay), 167 (@ Yokohama), 1,250 (@ Hong-Kong), 81 (@ Jamaica); gum acacia, 65 (@ Suez), 23 (@ Bordeaux), 51 (@ Valparaiso), 62 (@ Grand Popo), 42 (@ Mogador), 13 (@ Singapore), 145 (@ Hambro), 517 (@ Bussorah), 284 (@ Bushire), 315 (@ Bunder Abbas), 328 (@ Lingah), 272 (@ Aden), 510 (@ Mahomerah); gum benzoin, 116 (@ Hong-Kong); gum olibanum, 47 (@ Bombay); honey, 5 (@ Malta), 44 (@ Kingston); isinglass, 4 (@ Para), 3 (@ Aden), 29 (@ Hambro'); kino, 12 (@ Bombay); lemongrass oil, 100 (@ Madras); lemon juice, 30 (@ Catania); lime-juice, 374 (@ Dominica), 12 (@ Calcutta); lime oil, 57 (@ Dominica); liquorice, 30 (@ New York), 153 (@ Catania), 53 (@ Palermo); mace, 45 (@ Bombay), 4 (@ Aden), 5 (@ Colombo); magnesia, 50 (@ Philadelphia); mustard seeds, 1 (@ Colon); olive oil, 51 (@ Leghorn), 760 (@ Malaga), 705 (@ Bordeaux), 198 (@ Marseilles); opium, 110 (@ Bushire), 23 (@ Bussorah), 3 (@ Singapore), 36 (@ Ahwaz), 10 (@ Constantinople), 55 (@ Calcutta); orange-peel, 2 (@ Singapore); pistachios, 11 (@ Marseilles); potassium cyanide, 65 (@ Paris); rose oil, 14 (@ Bombay); saccharin, 10 (@ Boulogne), 7 (@ Antwerp); saffron, 3

(@ Valentia); sandarac, 213 (@ Mogador); sarsaparilla, 3 (@ Hambro'), 5 (@ Colou); senna, 50 (@ Suez), 67 (@ Bombay), 100 (@ Alexandria); shellac, 345 (@ Calcutta); tamarinds, 10 (@ Valparaiso), 2 (@ Hambro'), 39 (@ Calcutta); turmeric, 149 (@ Bombay); vanilla, 9 (@ Colombo), 9 (@ Rouen); wax, bees', 9 (@ Grand Popo), 71 (@ Dusseldorf), 3 (@ Hambro'), 5 (@ Genoa), 13 (@ Mogador), 200 (@ Aden), 12 (@ Natal), 50 (@ Para).

Heavy Chemicals.

There is really no material change in the condition of the heavy chemical market, either as regards general business or ruling values. Demand keeps quiet, both on home and export account, but both branches appear likely to take a turn for the better very shortly. In the home consuming trades, calico-printers, dyers, and bleachers, are all fairly busy. Paper-makers, although not overstocked with orders, are still getting through good supplies of raw materials. Soap-manufacturers find trade brisk, there being a good demand for manufacturing as well as household soaps. Potters are steadily employed, as are also carpet-manufacturers. The paint-trade is busier, and will soon be very brisk.

SULPHATE OF AMMONIA is rather quieter, and shows a slight decline in values. Nominal quotations: Beckton, 11*l.* 10*s.*; Beckton, April-June, 11*l.* 7*s.* 6*d.*; Beckton terms, 11*l.* 5*s.* to 11*l.* 7*s.* 6*d.*; Hull and London, 11*l.* 5*s.*; and Leith, 11*l.* 6*s.* 3*d.* Exports from Leith last week amounted to 638 tons.

BROWN ACETATE OF LIME moving well, and firm tone is steadily maintained. Value is a shade higher at 5*l.* 5*s.* to 5*l.* 10*s.* per ton.

BENZOLS are lower again; 90-per cent. at 9*d.*, and 50-per-cent. at 8*½d.* per gal.

LEAD PRODUCTS continue to move off steadily. White sugar of lead 2*l.* per ton, less 2*½* per cent. Glasgow. Brown sugar of lead 17*l.* per ton, less 2*½* per cent. Glasgow. Nitrate of lead 22*l.* 10*s.* per ton, less 2*½* per cent. Glasgow.

BARIUM PRODUCTS—A very firm tone is still the prevailing feature in this branch, and any decline in values is improbable. The mineral carbonate of barytes (witherite), over and above the already booked contract deliveries, is very difficult to obtain for either prompt or early delivery. Quotations are, therefore, still only nominal, and vary in accordance with the strength, quality, and package, &c. Blanc fixe, pure precipitated sulphate of barium in paste form, 7*l.* 5*s.* to 7*l.* 15*s.* per ton, in usual casks. Chloride of barium, best ordinary refined crystals, 7*l.* to 7*l.* 10*s.* per ton, in ordinary casks, or 5*s.* per ton less in bags. Nitrate of baryta firm, with advancing tendency, 16*l.* 10*s.* to 17*l.* 10*s.* per ton for crystals in casks, free on rails, and 5*s.* per ton extra for powdered. Hydrate of baryta, purest crystals, 14*l.* to 14*l.* 10*s.* per ton, in 6 to 7 cwt. easks. Sulphide of barium, crude calcined 70 to 75 per cent., 5*l.* 10*s.* to 6*l.* per ton, in casks. Mineral sulphate of barytes in steady request at late rates of 40*s.* to 100*s.* per ton for ground, according to quantity, quality, and package.

Liverpool Drug-market.

Liverpool, March 12.

CASTOR OIL.—Quay parcels of good seconds Calcutta have been selling at 2*½d.* per lb. during the week, but for store parcels 3*d.* to 3*½d.* is still asked. First-pressure French is held for 2*½d.* to 3*d.*, second-pressure 2*½d.* per lb.

AFRICAN GINGER.—Sales of the new crop have been made at 3*l.s.* per cwt. from the quay in quantity.

CHILLIES (SIERRA LEONE).—Fifty bags new crop realised 45*s.* per cwt. at auction, and 5 bags of somewhat inferior quality sold at 35*s.*, and 10 bags fine bright red 47*s.* per cwt. A further parcel of 12 bags good quality was held for 46*s.* per cwt.

QUILLAJA-BARK.—There is still a steady demand, and values range from 12*l.* 7*s.* 6*d.* to 13*l.* per ton, actual business being done at 12*l.* 10*s.* for about 5 tons.

SULPHATE OF COPPER is easier, and sales are reported at 19*l.* 10*s.* per ton.

ARSENIC.—The decline in this is maintained, and importers are still willing to sell at 13*l.* 15*s.* per ton.

GRAINS OF PARADISE.—For the small stocks remaining here importers talk of 60*s.* per cwt., but there is no evidence of further arrivals being forthcoming.

COCHIN GINGER.—Forty-one bags of new crop were offered at auction and limited at 44*s.* per cwt., but no bid was elicited. The parcel was afterwards sold on private terms.

GALLS.—Ten bags of Smyrna blue at auction were limited at 60*s.* per cwt., but no buyers put in an appearance.

CARNAUBA WAX.—The sale of 20 bags fine yellow is reported at 73*s.* per cwt.

CANARY-SEED.—For fine bright Turkish owners would now accept 35*s.* to 36*s.* per quarter.

RHATANY-ROOT.—Eighteen bales of good Peruvian were offered at auction, and were ultimately disposed of at 3*½d.* per lb.

BEESWAX.—The position is practically unchanged for the week, the amount of business passing being very limited.

American Drug-market.*New York, March 4.*

The market is more active, and transactions are of larger volume. Some speculative movements are in evidence.

ALOES.—Curaçoa is in demand, but buyers are not inclined to pay the prices asked. Quotations are more or less nominal, at 33c. to 4c.

BEESWAX is tending upward owing to light arrivals from producing points. Ordinary pure yellow is quoted from 30c. to 35c.

COD LIVER OIL is advancing, and \$24 to \$28 is quoted for leading brands.

BALSAM COPAIBA is firm, at 36c. to 39c. for prime Central American, and 48c. to 50c. for Para.

CITRONELLA OIL has declined to 20c. in drums owing to active competition.

ERGOT is nominally unchanged, but the market has a firmer tendency. Heavy saices have been made at 37c., presumably for speculative purposes.

GOLDEN-SEAL (*Hydrastis*) is easy. Spot quotations are 48c., and supplies are offered at primary centres for 46c.

IPECAC. is quiet and values nominal, at \$2.50 for Rio and \$1.35 for ipecac. Less than this would buy.

MANDRAKE (*Podophyllum*) is scarce on the spot, and 4½c. is an inside quotation.

MANNA is firmer in sympathy with advices from primary markets. Large flake is held at 75c., and small at 35c.

QUININE.—Domestic makers have advanced quotations to 28c., and foreign brands are expected to advance similarly. Supplies from second-hands are offered sparingly.

SARSPARILLA (Mexican) has sold at 6½c., and more is to be had at this figure.

SENEGA is firm at the recent advance to 51c.

SERPENTARY.—Texas root is scarce, and 38c. has been paid for small lots.

THYMOL is unsettled, with quotations varying from \$2.40 to \$2.75.

German Drug-market.*Hamburg, March 11.*

The drug-business in general is quiet, only a very few articles meeting with interest.

AGAR-AGAR is lower, spot quotes 335m. to 331m.; forward, 310m. to 305m. per 100 kilos.

BALSAM PERU is a little easier, at 12½m. to 12½m. per kilo.

CAMPHOR (REFINED) is very firm, and very little is offered by second-hand holders at 435m. per 100 kilos. It seems very probable that the makers will advance their prices ere long.

CONDURANGO-BARK is firm, at 112m. to 115m. per 100 kilos.

CANTHARIDES quote 480m. to 475m. per 100 kilos.

ERGOT of Rye is tending firmer, and shows a strong market with a fair demand. America has sent large orders and our stocks here are getting very small. Russia is not offering much, and the stocks in Spain seem to be very small. The present quotations vary from 330m. to 350m. per 100 kilos.

Lycopodium is very firm and dearer, spot-delivery, at 460m. per 100 kilos, while Russia quotes already 470m. to 475m.

MENTHOL shows only little business, present quotation is 29m. per kilo.

IPECACUANHA is dull and lower, Rio at 21½m., Cartagena at 9½m. per kilo.

WAX, JAPANESE, is very firm and Carnauba unchanged.

OILS.—Castor oil is in better demand, first-pressing in barrels spot being held at 56m. per 100 kilos. Cod-liver oil is firm, non-congealing oil at 78m. per barrel. Linseed is firm but quiet.

OILS (ESSENTIAL).—Star-anise oil is unchanged, at 10½m. per kilo. Peppermint H.G.H. is 8.60m. per lb.; Japanese do., 8½m. to 8m. per kilo.; Carvol is quoted at 15m. to 16m. per kilo.; and Caraway-seed oil, 8½m. to 9½m. per kilo.

Cablegrams.

NEW YORK, March 13, 2.56 P.M.:—Business is fair with us. Opium is easy at \$2.93; quinine, strong, at 27c. to 28c.;aconite-root, tending lower, present price 10c.; lithia, in an unsettled state at \$1.25; hydrastis, firmer (48c.); Japan wax, firm at 8c.; condurango, higher (15c.); thymol has declined to \$2.50; senega advanced to 58c., and ergot is firmer at 38c.

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BERGEN, March 13, 12.20 P.M.:—The official reports put the catch of cod to date at 11,023,000, against 10,379,000 same date last year, which will yield 6,317 barrels of oil, as compared with 9,831 in 1901. The market in non congealing oil is firm at 78s. per barrel, and is rising, although the fishing is improving.

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HAMBURG, March 13, 1.15 P.M.:—Agar-agar dull, camphor still expectant, cevadilla dearer at 100m. Ergot and oil of peppermint are firm.

ACID, CARBOLIC.—Crystals, 39-40°, 6½d. per lb., 34-35°, 6d.; crude, 50°, 1s. 6d. to 1s. 6½d., 60°, 1s. 10½d. to 1s. 11d., 75°, 2s. 3d. to 2s. 3½d.

ACID, CITRIC.—The price is 1s 0½d. for crystals, and a fair business for this season is passing.

ACID, TARTARIC.—Foreign crystals, 10½d. per lb. on the spot, English 1d. more.

ARROWROOT.—At auction on Wednesday common St. Vincent sold at 1½d. per lb.

BALSAM, PERU.—The report that the San Salvador Syndicate had advanced their price by 1m. per kilo. has not affected this market, where the balsam is offered at 6s. 3d. to 6s. 6d. per lb., according to quantity.

BISMUTH CARBONATE again cheaper. For contract quantities of 5 cwt., the manufacturers are accepting 1d. per lb. less—viz., 5s. 8d. per lb.

BORAX.—Crystals, 13s., and powder, 14s. Boracic acid, crystals, 22s., and powder, 24s. per cwt.

CAMPHOR, CRUDE.—Following upon the rumours that the monopoly referred to in our last report had been secured by the Japanese Government, the market has this week been weaker, and there have been offers of 7s. 6d. per cwt. below last week's closing price. On Friday 100 piculs of Japanese (March-April) sold at 162s. 6d. per cwt., c.i.f., but the price rose to 163s. before the close, and on Tuesday of this week sellers were offering April-May at 160s. c.i.f. now 157s. 6d.

CAMPHOR, REFINED.—English refiners have advanced their prices by 1d. per lb., the present quotations for 1-ton lots being 2s. 2½d. per lb. for bells and flowers. German refined camphor has not been advanced, but a rise is expected daily. The market is strong, and a further advance will not be a surprise.

CARDAMOMS.—Firm; the prices for better qualities being well maintained. Lower grades slightly easier.

CASCARILLA.—New York advices state that this is becoming an exceedingly scarce article. Fine quill is selling there at 70s. per cwt.; second qualities at 65s., and stringy varieties at 50s. per cwt.

CINCHONA.—At the auctions on Tuesday 1,797 packages were offered, the most of them being sold at prices slightly higher than formerly. The unit is now 1½d. to 1¾d., as against 1½d. last sale. The kinds and quantities of bark offered and sold are shown as under:

	Packages offered	Packages sold
South American cinchona	779 of which	779
East Indian cinchona	713 "	681
Ceylon cinchona	151 "	108
African cinchona	123 "	123
Java ciuchoua	41 "	41
	1,797	1,732

The following approximate quantities of bark purchased by the principal buyers does not include 391 packages of old import (1879, 1881, and 1882) South American bark sold without reserve, the weights not being stated:

Agents for the Brunswick factory	...	...	60,040
Agents for the Frankfort and Stuttgart factories	...	...	50,040
Messrs. Howards & Sons	...	...	50,009
Agents for the American factories	...	...	41,607
Agents for the Imperial factory	...	...	33,109
Agents for the Mannheim and Amsterdam factories	...	...	8,905
Druggists, &c.	...	...	8,650
Total quantity sold	...	...	257,360
Bought in	...	...	8,310
Total quantity offered	...	...	265,670

The prices obtained were as follows:—

SOUTH AMERICAN.—Bolivian cultivated Calisaya, medium quill and chips, 6½d. to 9½d. per lb. Old import: Pitaya, at 1½d. to 2d.; New Grenada, 1½d. to 2½d.; and Cuprea, 1½d. to 2d.

AFRICAN.—Fair quill, 6½d. per lb.; broken and chippy, 5½d. to 6½d.

EAST INDIAN.—Officinalis, stem chips and shavings, good to fine, 5d. to 9d. per lb.; fair, 3½d. to 4½d.; renewed good to fine, 5½d. to 10½d.; root, 4d. to 7½d.; branch, 2½d. to 4½d. Ledjeriana,

stem chips, 7d. to 8½d. per lb.; root, 8½d. to 8¾d.; branch, 5½d. to 6d.; hybrid, renewed stem, 3½d. per lb.; branch, 2½d. Succirubra, stem chips and shavings, fair to good, 3½d. to 4½d. per lb.; renewed, 3½d.; branch, 3½d.; root, 3½d. to 3¾d.; mixings, 4½d.

JAVA.—Succirubra root, 4½d. per lb.; quail, 4½d. to 4¾d.

CEYLON.—Officinalis, stem chips, 1½d. to 3½d. per lb.; branch, 2½d. Ledgeriana, fine rich stem chips, 8d. to 11½d. per lb.; branch, 6½d. to 7d.

COCAINE.—The market is firm. The heavy stocks of crude alkaloid in Hamburg are well held, and as they are the chief factor indicative of a decline there is no prospect of slackening at present.

CREAM OF TARTAR is steady at 73s. to 73s. 6d. per cwt. for 98 per cent.

DAMIANA-LEAVES.—It is reported from the other side that American stock is exhausted. Here there is little, and the price asked is 7½d. to 7½d. per lb. on the spot.

ERGOT is in an unsettled state, but a tendency to higher prices prevails, although sales of Spanish at 1s. 6d. per lb. were reported on Tuesday. We cannot trace any more at that price, and the principal holders now ask 1s. 7d. Russian is 1s. 5d. to 1s. 5½d., and the Hamburg price is 1s. 6½d. c.i.f.

GENTIAN.—Easier; sales have been made at 15s. 6d. to 16s. per cwt., c.i.f., for good sorts.

HENBANE.—The condition of the English farms so far indicate that this year's crop will again be short. Higher rates for both annual and biennial leaf are already spoken of.

HYDRASTIS CANADENSIS.—Rather firmer in tone and a rise seems inevitable. The ruling price is 2s. 1d., c.i.f.

INSECT FLOWERS.—Stocks here are not large, and for open flowers one holder wants 10s. per cwt. more than we quoted last week.

IPECACUANHA.—Business in Rio has been done since the sales at up to 10s. for good root, and Cartagena at 4s. 6d.

LOBELIA.—Stocks are becoming restricted. The latest quotations are 6½d. to 6½d. per lb. for loose sorts.

MENTHOL.—Little doing at 13s. 6d. per lb. for ordinary Japanese, and for Kobayashi 13s. 9d. per lb.

MORPHINE.—Good business is being done just now at 4s. 3d. per oz. for hydrochloride in powder, and 4s. 5d. in Cubes. Buyers think it a good time to fill up their requirements.

NUX VOMICA.—Calcutta advices, dated February 20, state that there have been inquiries from the U.S.A., but no important sales. Stocks are light. Small parcels have been sold loose at 2½l. to 2½l. per British maund.

OIL, ANISE (STAR).—The market is in a very sickening condition, forced sales of new arrivals keeping the price down to 4s. 4½d. per lb. in cases.

OIL, BERGAMOT.—The market is very firm, the latest price asked being 7s. per lb., net.

OIL, CASTOR.—The market is quiet. Hull made castor oils is quoted 25l. 10s. per ton for firsts in barrels, and 24l. 10s. for seconds.

OIL, COD-LIVER.—At the end of last week a small parcel of new season's oil was picked up for 75s. per barrel, spot, but no more can be got at that figure. At the beginning of this week rumours of scarcity were freely talked about, and prices have been raised to the range of 85s. to 95s. per barrel, c.i.f., London. Business has been done at 85s. The statements as to unproductive fishing are exactly what usually prevail at this season, but it has to be noted that there is a cessation of fishing in Lofoten at Easter, and this will naturally affect the supplies of new oil temporarily at least. The demand this week for oil on the spot, with the scarcity of old oil and the poorish quality of most of the new, has given a justifiably firm tone to the market, but there is a tendency to exaggerate a mere temporary hesitation on the part of Norway holders into a permanent advance towards a three-figure price. Our correspondent in Bergen, who is well informed and unbiased, writing on March 8, says:—

The cod-fisheries have this week been favoured with calm weather, and have, especially in East Lofoten, been most satisfactory. I shall therefore next week most likely be able to write you a fair progress of the statistics. The livers are, however, constantly poor, but as a continued good fishery should be able to counterbalance the deficit, the tendency of the market is decidedly calmer, if not a shade weaker. The exports of cod-liver oil from

here up to date are 1,643 barrels, against 1,696½ barrels at the same time last year.

OIL, LEMON.—Dearer; for fine quality from 2s. 7d. to 2s. 9d. per lb. is now being asked.

OIL, OLIVE.—Firmer prices are being got for the better qualities of Lucca—viz., from 52l. 10s. to 68l. per tun.

OIL, TURPENTINE.—Unchanged, at 31s. per cwt.

OPIUM.—Good demand for all descriptions of soft. Good Karahissar sorts are selling at 8s. 3d. per lb. For Persian the demand is small on the spot, but large to arrive at recent prices.

CONSTANTINOPLE, March 7.—The only sales during the past fortnight are 5 cases "soft" at 9s. 3d., and the market again closes very quiet, with absolutely nothing doing. Owing to continuation of the extreme mild weather—unprecedented at this period of the year—the young plants are progressing most favourably, and crop prospects are excellent at present.

OTTO OF ROSE.—London dea'ers report a fair business at unchanged rates.

PODOPHYLLUM-ROOT is strong in tone, and a fair quantity has recently been sold at 23s. per cwt., c.i.f. Stocks are getting rather thin.

POTASSIUM CHLORATE is quiet at 3d. to 3½d. per lb.

QUININE.—This has been a quiet week, but after the bark sales on Tuesday there was a firmer tendency, and rumours that there will be an advance of 1d. per oz. These are groundless so far. The second-hand market prices for German are 1s. 1½d. spot, and 1s. 2d. June. Sales include 10,000 oz. August delivery at 1s. 2½d.

SEEDS.—Russian Anise dull, at 20s. per cwt. Dutch Caraway slow, at 21s. to 21s. 6d. per cwt. Turkish Canary steady, at 38s. per quarter. Coriander sells slowly at 9s. 6d. per cwt. for Morocco, and at 16s. 6d. for English Morocco Finugreek quiet, at 7s. to 7s. 6d. per cwt. Linseed firm, at 58s. to 61s. per quarter for good clean seed. Morocco Cumin firm, at 26s. per cwt., and Malta 33s. to 35s. per cwt.

SENEGA.—Still very firm, with imminent indications of a rise. Considerable business has been done at 2s. 4d. per lb., net terms. There is a talk about 2s. 6d. being an early figure, American advices still being strong.

SERPENTARY remains unchanged, the prevailing price being 1s. 9d. per lb. for good root.

SHELLAC.—This week's auctions contained small supplies, the total being 390 cases. Of 220 cases second orange, 35 cases sold privately at a 2s. decline, and the remainder were bought in at 116s. to 120s. per cwt. for livery to fair reddish TN. The Garnet was bought in, and the Button taken out. Privately the market remains steady, although quiet, with a moderate business doing on the spot, fair TN orange selling at 117s. to 118s. cash terms.

SODIUM HYPOSULPHITE.—Cheaper. Small crystals are offered in ten lots at 7s. 10s. net—i.e., 10s. down.

SPICES.—The market has been quiet, but steady, the only article showing any change being Pimento, which is rather dearer. At auction on Wednesday Cochin Ginger partly sold at previous quotations, dull to good washed rough at 36s. 6d. to 38s. per cwt., and bright boldish Calicut rough at 43s.; bold and medium native cut was bought in at 80s., and medium and small at 65s. per cwt. Japan was bought in at 40s. per cwt. for rough very slightly limed. Jamaica in slack demand, and only a few lots sold; lean dark at 36s. to 38s. 6d., and dull washed at 38s. to 39s. per cwt. Zanzibar Cloves were bought in at 3½d. per lb. for fair quality, a bid of 3½d. being made. The quotations for future delivery show no change from last week. Stems sold at 1½d. per lb. Fair unpicked Penang realised 6½d. per lb. Pimento in good request, and the bulk sold at 2½d. per lb. for common, and at 3d. for ordinary to fair. Ordinary East India Capsicums on stalk were bought in at 15s. per cwt. New selected Cassia-lignea was bought in at 60s. per cwt., chips at 48s., and China-cinnamon at 25s. per cwt. Dusty Cinnamon chips were bought in at 3d. per lb., and good Japan Chillies at 40s. per cwt. Pepper steady, grey Alleppy was bought in at 6d. per lb. The quotation for Singapore black is 5½d., both for spot and shipment. Tellicherry is selling privately at 6½d. to 6½d. Good fair Singapore white was bought in at 10½d. per lb.